So‘zboshi

“AHA! Matematika” – qo‘lingizdagi darslikni shunday nomladik. “AHA!” so‘zi, bir tomondan, matematika fani sirlarini kashf qilish jarayonidagi zavqli hayqiriq bo‘lsa, ikkinchi tomondan, bu mo‘jizakor fanga berilgan “aniq”, “hayratlanarli” va “ajoyib” ta’riflarining bosh harflaridan yasalgan so‘zdir.

“AHA! Matematika” O‘zbekiston sharoitiga moslab mahalliylashtirilgan darslikdir. U “Moddiy-rasmli-timsolli” yondashuviga asoslangan bo‘lib, AKT yordamida matematik tushunchalarni yaxshiroq o‘rganishga yordam beradi. Darslik tarkibidagi amaliy topshiriqlar matematikani o‘qitish samaradorligini oshirishga xizmat qiladi.

Darslikdagi ruknlar o‘quvchilarning faol o‘rganishini rivojlantirishga yo‘naltirilgan. O‘quvchilar ushbu darslik yordamida nafaqat yangi matematik bilim va ko‘nikmalarni o‘zlashtiradi, balki muammoli vaziyatlarda kerak bo‘ladigan mantiqiy fikrlash va mulohaza yuritish kabi hayotiy ko‘nikmalarga ham ega bo‘ladi.

Matematika olamiga sayohatingiz qiziqarli va maroqli bo‘lsin!

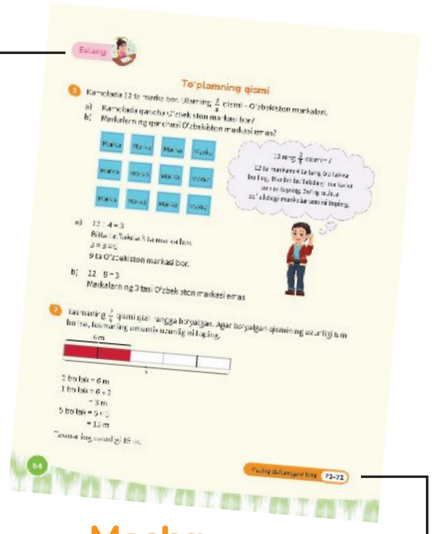


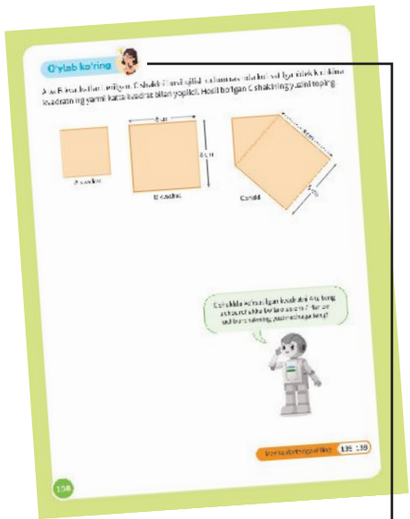
Muhokama qiling

rukni o‘quvchilarni yangi matematik tushunchalarni o‘rganishga tayyorlaydi. O‘qituvchi o‘quvchilarni mavzuga oid rasm yoki video asosida suhbat (muhokama) ga jalb qiladi va uni boshqaradi.

Eslang

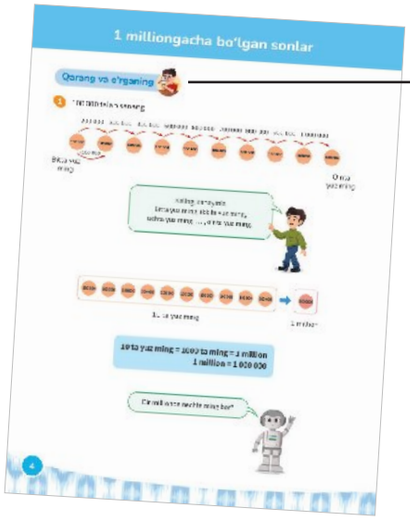
rukni o‘quvchilarni yangi mavzuga oid oldin o‘rgangan tayanch bilimlarini takrorlashga yo‘naltiradi.





Mashq daftariga o‘ting

darslikning tegishli joylariga qo‘yilgan bo‘lib, mashq daftari bilan ishlash zarurligini bildiradi.



Qarang va o‘rganing

rukni matematik tushunchalarni rasm orqali tanishtiradi, ularni abstrakt (timsolli) darajada tushunishga yordam beradi.

O‘ylab ko‘ring

rukni o‘quvchilarni topshiriq yoki mashqlarni bajarishdan oldin o‘ylashga va mulohaza yuritishga undaydi.

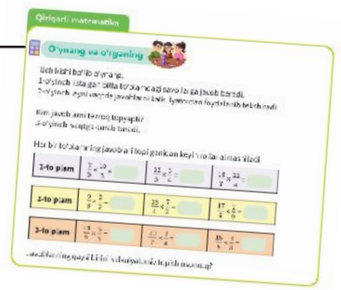
Turmushda matematika

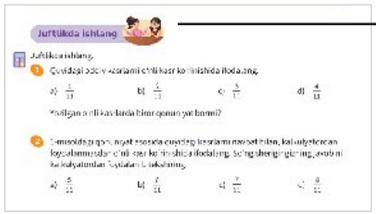
rukni o‘quvchilarga kundalik turmushda uchraydigan vaziyatlarda matematikaning qo‘llanishini ko‘rsatadi.



O‘ynang va o‘rganing

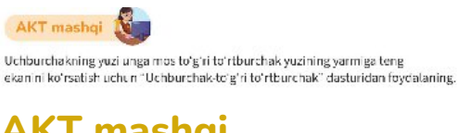
rukni o‘quvchilarda topshiriq va o‘yinlar orqali matematik tushunchalarni mustahkamlaydi.





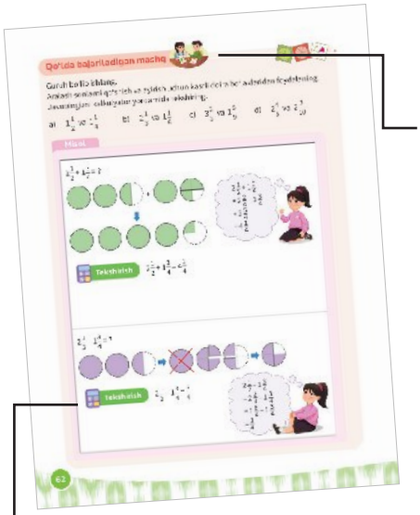
Juftlikda ishlang

rukni o‘quvchilarga bir-birining o‘rganganlarini baholash uchun juft bo‘lib ishlash sharoitini yaratadi.



AKT mashqi

rukni egallangan bilimlarni maxsus platformadagi axborot texnologiyalaridan foydalangan holda namoyish qilish kerakligini anglatadi.



Qo‘lda bajariladigan mashq

rukni o‘quvchilarni matematik tushunchalarini rivojlantirish uchun maxsus ko‘rgazmali materiallardan foydalanishga undaydi.



O‘zingizni tekshiring

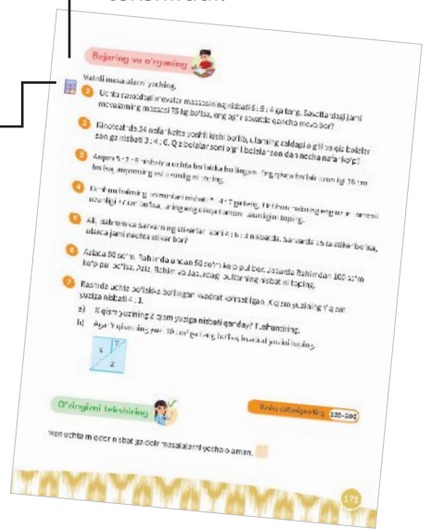
rukni o‘quvchilarga bilimini tekshirish va o‘z-o‘zini baholashda yordam beradi.

Tekshirish

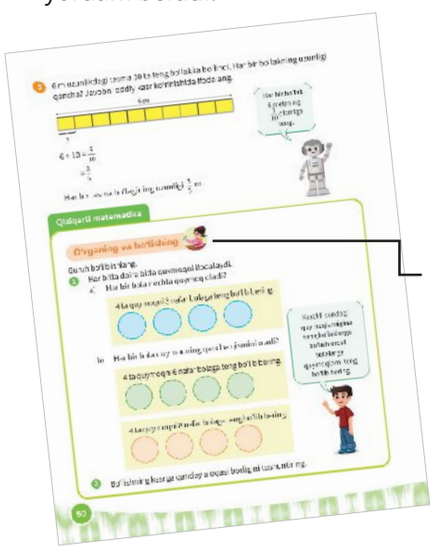
O‘quvchilar masalalar javoblarini tekshirish uchun kalkulyatordan foydalanishi mumkin.

Bajaring va o‘rganing

ruknida o‘quvchilar mashqlarni bajarish orqali o‘z bilimlarini tekshiradi.



Masalani yechishda kalkulyatordan foydalanishga ruxsat beriladi.



O‘rganing va bo‘lishing

rukni o‘quvchilarga muloqot qilish va o‘rgangan bilimlarini bir-birlari bilan bo‘lishish imkonini beradi.

Hamrohlar

Madina, Aziza, Akmal, Sardor va Robi – qalin do‘stlar. Ular o‘zlarining fikrlari, takliflari, izohlari va savollari orqali siz bilan birgalikda matematikani o‘rganadi.



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1 Natural sonlar

Muhokama qiling



Yillar davomida Toshkent shahri aholisi soni qanday o‘zgarib borgan?







1910-yilda
Toshkent shahri aholisi
146 000 nafar edi.

1960-yilda
Toshkent shahri aholisi 1 000 000 nafarni tashkil etgan.

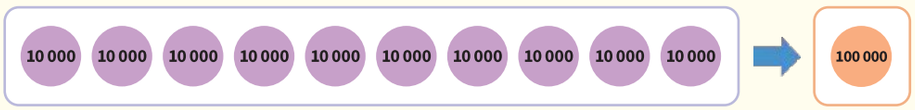
2023-yilda
Toshkent shahri aholisi 3 000 000 nafardan oshdi.

Eslang



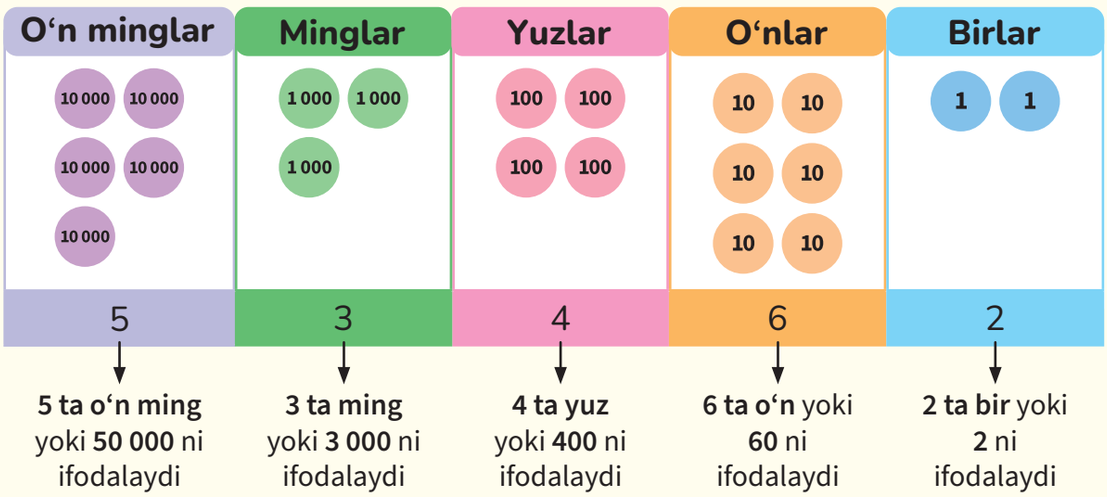
100 000 gacha bo‘lgan sonlar

1

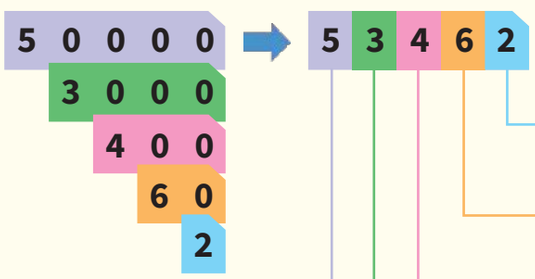


10 ta o‘n ming = 100 ming

2



50 000 + 3000 + 400 + 60 + 2 = 53 462



2 – **birlar** xonasida va uning qiymati **2** ga teng.

6 – **o‘nlar** xonasida va uning qiymati **60** ga teng.

4 – **yuzlar** xonasida va uning qiymati **400** ga teng.

3 – **minglar** xonasida va uning qiymati **3000** ga teng.

5 – **o‘n minglar** xonasida va uning qiymati **50 000** ga teng.

Raqamlar bilan: **53 462**

So‘zlar bilan: **ellik uch ming to‘rt yuz oltmish ikki**

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 2 09/08/24 19:30

3 43 029, 43 209 va 43 092 sonlarini o‘sish tartibida joylashtiring.

O‘M	M	Y	O‘	B
4	**3**	0	2	9
4	**3**	2	0	9
4	**3**	0	9	2

Uchala sonda ham 43 ta minglik bor.

O‘M	M	Y	O‘	B
4	3	**0**	2	9
4	3	**2**	0	9
4	3	**0**	9	2

2 ta yuzlik 0 ta yuzlikdan kattaroq. Demak, yuqoridagilar orasida 43209 – eng katta son.

O‘M	M	Y	O‘	B
4	3	0	**2**	9
4	3	0	**9**	2

2 ta o‘nlik 9 ta o‘nlikdan kichikroq. Demak, bu o‘rinda 43029 – eng kichik son.

43 029 , **43 092** , **43 209**

eng kichik ⟶ eng katta
o‘sish tartibi

4 Sonli ketma-ketlikning keyingi hadini toping.
Ketma-ketlik qanday qonuniyat asosida tuzilgan?

7**4** 395 | 7**3** 395 | 7**2** 395 | 7**1** 395 | 7**0** 395 | ?

Qonuniyat: ketma-ketlikning keyingi hadini topish uchun oldingisidan 1000 ni ayiring.
Ketma-ketlikning keyingi hadi 69 395 ga teng.

5 Quyidagi sonlarni yaxlitlang.

Son	Eng yaqin		
	O‘nliklargacha	Yuzliklargacha	Mingliklargacha
2085	2090	2100	2000
15 562	15 560	15 600	16 000
192 759	192 760	192 800	193 000

Mashq daftariga o‘ting **1–4**

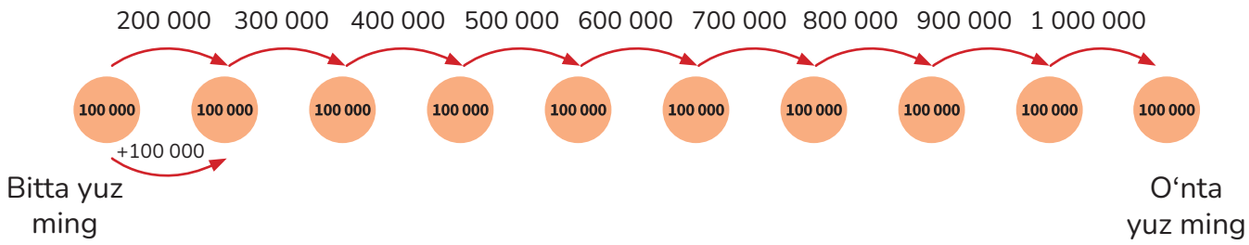
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1 milliongacha bo‘lgan sonlar

Qarang va o‘rganing

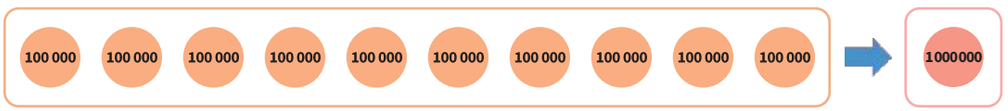


1 100 000 talab sanang.



Keling, sanaymiz.
Bitta yuz ming, ikkita yuz ming,
uchta yuz ming, … , o‘nta yuz ming.

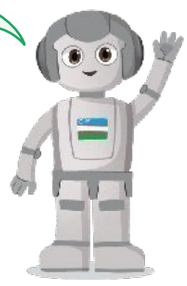




10 ta yuz ming — 1 million

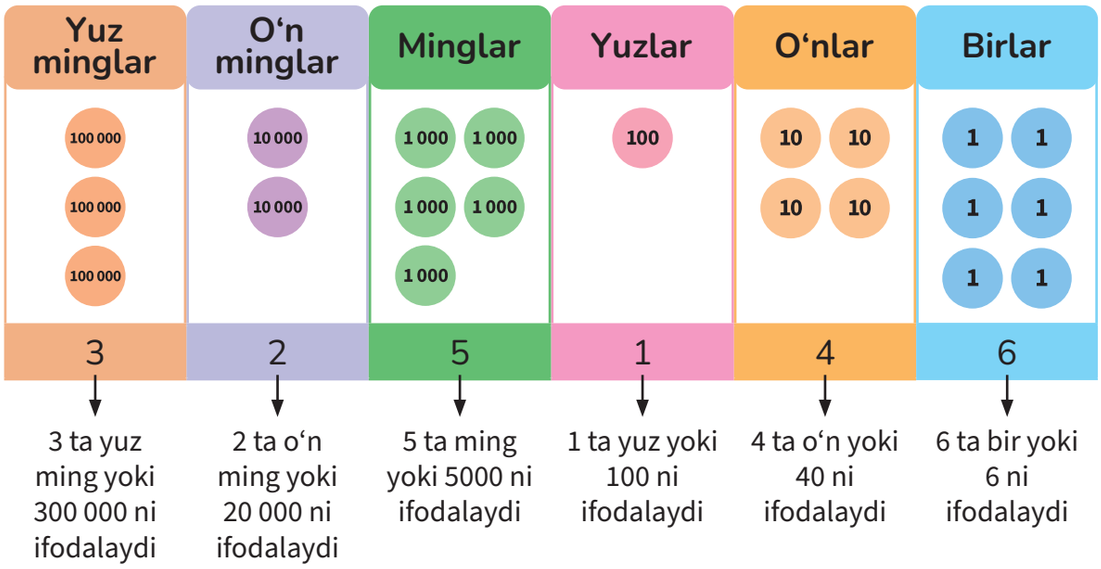
10 ta yuz ming = 1000 ta ming = 1 million
1 million = 1 000 000

Bir millionda nechta ming bor?

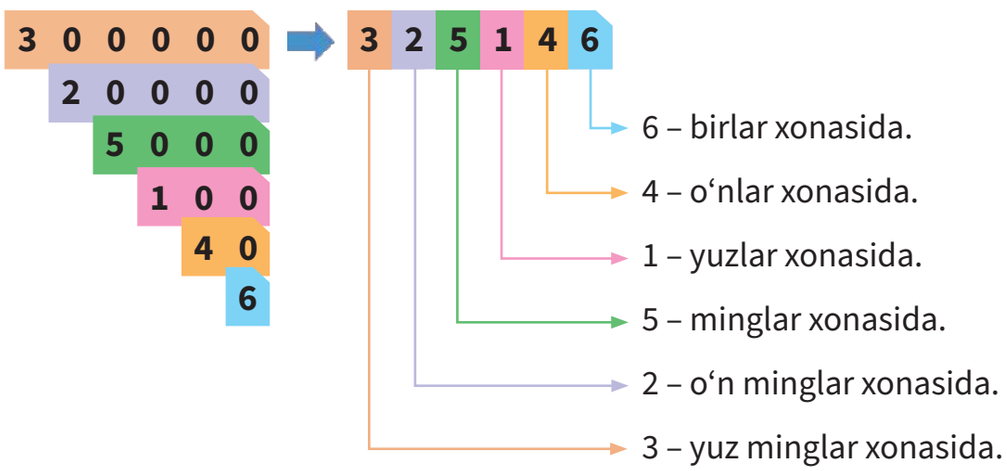


29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 4 09/08/24 19:30

2 Sonli tugmalar yordamida ifodalangan sonni aniqlang.



325 146 = 300 000 + 20 000 + 5000 + 100 + 40 + 6



Raqamlar bilan: **325 146**

So‘zlar bilan: **uch yuz yigirma besh ming bir yuz qirq olti**



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3

Yuz minglar	O‘n minglar	Minglar	Yuzlar	O‘nlar	Birlar
7	0	4	8	3	5

yetti yuz to‘rt ming | sakkiz yuz o‘ttiz besh

700 000 + 4000 + 800 + 30 + 5 = 704 835

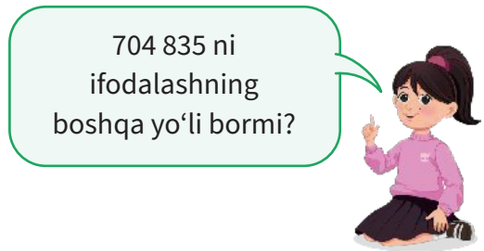
(7 × 100 000) + (4 × 1000) + (8 × 100) + (3 × 10) + (5 × 1) = 704 835

Raqamlar bilan: **704 835**

So‘zlar bilan: **yetti yuz to‘rt ming sakkiz yuz o‘ttiz besh**

4 704 835 = 704 000 + 835

7 0 4 8 3 5 → 7 0 4 0 0 0
8 3 5



Juftlikda ishlang



Quyidagi sonlarni sonli tugmalardan foydalanib tasvirlang. So‘ng ularni o‘qing va so‘zlar bilan yozing. O‘rtog‘ingizning ishini tekshiring.

a) 720 265 b) 800 040 c) 506 203 d) 912 738

Misol

100 000 | 10 000 | 1 000 | 100 | 10 | 1
10 000 | 100 | 1

121 212
Bir yuz yigirma bir ming ikki yuz o‘n ikki



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Bajaring va o‘rganing



1 Raqamlar bilan yozing.

a) Ikki yuz olti ming

b) Yetti yuz ming to‘qson to‘qqiz

c) To‘rt yuz uch ming o‘n

d) Uch yuz o‘n to‘rt ming to‘qqiz yuz oltmish yetti

e) Sakkiz yuz yigirma ikki ming besh yuz to‘rt

2 So‘zlar bilan yozing.

a) 800 200

b) 750 040

c) 645 279

d) 507 507

e) 480 084

3 Tushirib qoldirilgan sonlarni yozing.

a) 491 862 = _____ + 862

b) 549 607 = 549 000 + _____

c) 345 660 = 345 000 + _____

d) 823 000 + 943 = _____

e) _____ = 681 000 + 526

Mashq daftariga o‘ting 5–8

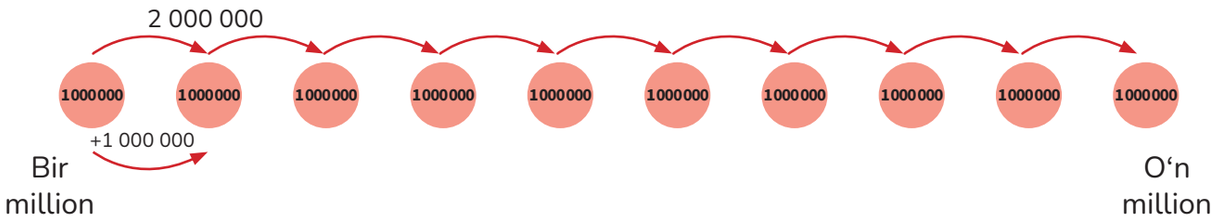
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 7 09/08/24 19:30

10 milliongacha bo‘lgan sonlar

Qarang va o‘rganing



1 1 000 000 talab sanang.



10 million = 10 000 000

Keling, sanaymiz.
Bir million, ikki million,
…, to‘qqiz million,
o‘n million.

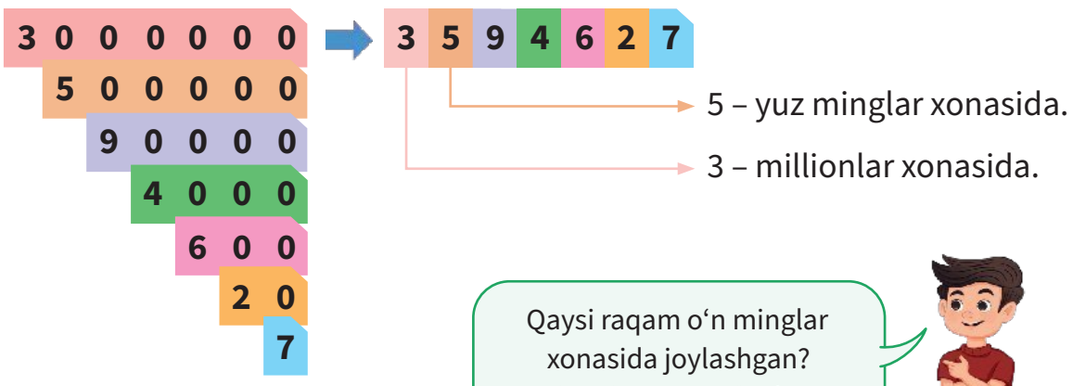


2 Sonlar millionlarda qanday ifodalanadi?

a)

Millionlar	Yuz minglar	O‘n minglar	Minglar	Yuzlar	O‘nlar	Birlar
3	5	9	4	6	2	7

3 000 000 + 500 000 + 90 000 + 4000 + 600 + 20 + 7 = 3 594 627



Qaysi raqam o‘n minglar xonasida joylashgan?
Qaysi raqam minglar xonasida joylashgan?

Raqamlar bilan: **3 594 627**

So‘zlar bilan: **uch million besh yuz to‘qson to‘rt ming olti yuz yigirma yetti**

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b)

Millionlar	Yuz minglar	O‘n minglar	Minglar	Yuzlar	O‘nlar	Birlar
4	2	0	5	1	3	6

to‘rt million | ikki yuz besh ming | bir yuz o‘ttiz olti

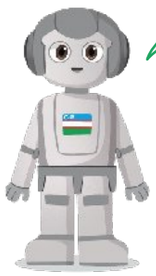
4 205 136 = 4 000 000 + 200 000 + 5000 + 100 + 30 + 6

4 0 0 0 0 0 0
2 0 0 0 0 0
5 0 0 0
1 0 0
3 0
6

→ 4 2 0 5 1 3 6

2 raqami 200 000 ni ifodalayapti.

4 raqami 4 000 000 ni ifodalayapti.



4 205 136 dagi boshqa raqamlarning qiymati qanday?

4 205 136 taqriban 4 000 000 ga teng.



Raqamlar bilan: **4 205 136**

So‘zlar bilan : **to‘rt million ikki yuz besh ming bir yuz o‘ttiz olti**

3 4 205 136 = 4 000 000 + 205 000 + 136

4 2 0 5 1 3 6 → 4 0 0 0 0 0 0
2 0 5 0 0 0
1 3 6

4 205 136 ni ifodalashning boshqa yo‘li bormi?



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Qo‘lda bajariladigan mashq



0 1 2 3 4 5 6 7 8 9

Guruh bo‘lib ishlang.

Har bir guruhga 0 dan 9 gacha bo‘lgan raqamli kartochkalar beriladi.

1. Kartochkalarni aralashtiring va teskari qilib qo‘ying.
2. Navbat bilan yettitadan kartochka oling va 7 xonali son tuzing.
3. Guruhning boshqa a’zosidan tuzgan soningizni o‘qishni va yozishni so‘rang.
4. Sonni “0” bilan boshlamang.

Misol

7	2	9	1	4	0	6

7 291 406
Yetti million ikki yuz to‘qson bir ming to‘rt yuz olti



Qiziqarli matematika

O‘rganing va bo‘lishing



Guruh bo‘lib ishlang.

1 Kundalik hayotda ishlatiladigan katta sonlarga doir ma’lumotlarni keltiring. Quyidagi misollarning ba’zilarini guruhdoshlaringiz bilan o‘rtoqlashing.

a) 1 milliongacha

b) 1 milliondan katta va 10 milliondan kichik

Namuna

- 2024-yilda O‘zbekistonda maktablar soni 10 163 tani tashkil qilgan.
- 1924-yilda O‘zbekiston aholisi soni taqriban 4 400 000 nafar bo‘lgan.

2 “Bunyodkor” stadioni taqriban 34 000 nafar tomoshabinni sig‘dira oladi. Qashqadaryo viloyati aholisi 2023-yilda 3 million 400 ming kishini tashkil qildi. Qashqadaryo viloyati aholisi soni “Bunyodkor” stadioniga sig‘adigan tomoshabinlar soniga qaraganda qanchalik ko‘p ekanini guruh a’zolari bilan birga aniqlang.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 10 09/08/24 19:30

Bajaring va o‘rganing



1 Raqamlar bilan yozing.

a) Bir million besh yuz ming

b) Uch million oltmish besh ming to‘rt yuz sakson bir

c) Sakkiz million bir ming o‘n

d) Besh million bir yuz ming ikki yuz yetti

e) To‘qqiz million ikki yuz o‘ttiz ming uch yuz oltmish to‘rt

2 So‘zlar bilan yozing.

a) 2 360 500

b) 6 000 180

c) 3 245 524

d) 4 320 016

e) 5 570 750

3 Tushirib qoldirilgan sonlarni yozing.

a) 4 276 000 = _____ + 276 000

b) 3 000 175 = 3 000 000 + _____

c) 9 000 000 + 402 000 = _____

d) 7 040 005 = 7 000 000 + _____ + 5

e) _____ = 6 000 000 + 200 000 + 34

O‘zingizni tekshiring



Mashq daftariga o‘ting **9–14**

Men 10 milliongacha bo‘lgan sonlarni raqamlar va so‘zlar yordamida o‘qish va yozishni bilaman.

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O‘ylab ko‘ring



Jadvalda Yevropadagi ba’zi mamlakatlar aholisining 2023-yilgi taqribiy soni keltirilgan.
Jadvaldan foydalanib quyidagi savollarga javob bering.

Mamlakat	Aholi soni
Belarus Respublikasi	9 000 000
Lyuksemburg	650 000
Avstriya	8 960 000
Norvegiya	5 470 000
Islandiya	380 000
Shveytsariya	8 800 000

Manba: Worldometers vebsayti

a) Qaysi mamlakat aholisi 5 millionga yaqin?

b) Qaysi mamlakatlar aholisi 1 milliondan kam?

c) Qaysi mamlakatda eng kam aholi yashaydi?

d) Qaysi mamlakatlar aholisi 7 milliondan ko‘p?

e) Qaysi mamlakat aholisi 10 millionga yaqin?

Mashq daftariga o‘ting 15–18

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2 Sonlar ustida to‘rt amal

Muhokama qiling



Bolalar sonli ifodaning qiymatini topishga harakat qilyapti.

$24 - 6 \times 2$ ning qiymatini toping.

Qaysi amal birinchi bajarilishi kerak?

24 – 6 = 18
18 × 2 = 36
Mening javobim 36.

6 × 2 = 12
24 – 12 = 12
Mening javobim 12.

Mening kalkulyatorim 12 ni ko‘rsatyapti.

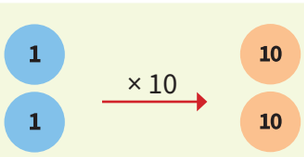
Mening kalkulyatorim 36 ni ko‘rsatyapti.

Sonni 10, 100 va 1000 ga ko‘paytirish

Qarang va o‘rganing

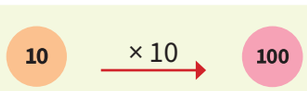


1 a) 2 ni 10 ga ko‘paytiring.



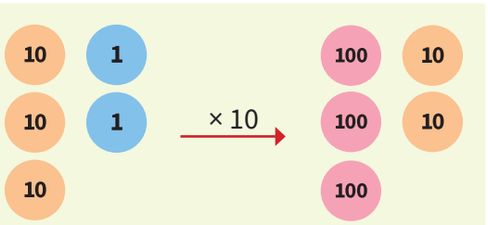
$2 \times 10 = 20$

b) 10 ni 10 ga ko‘paytiring.



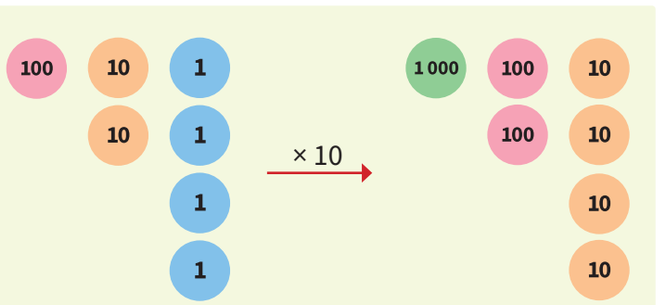
$10 \times 10 = 100$

c) 32 ni 10 ga ko‘paytiring.



$32 \times 10 = 320$

d) 124 ni 10 ga ko‘paytiring.



$124 \times 10 = 1240$

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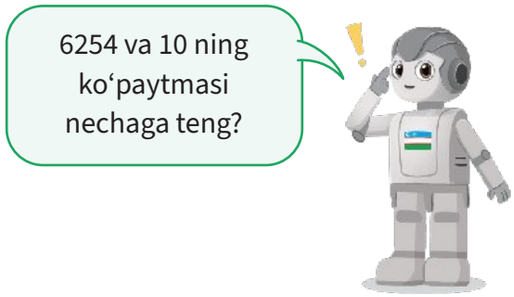
2 Sonlarni 10 ga ko‘paytirayotganda qanday qonuniyatga duch keldingiz?

$2 \times 10 = 20$

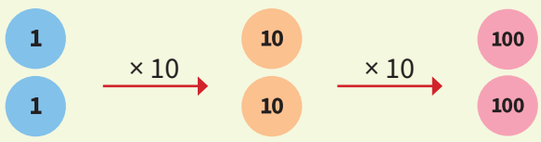
$10 \times 10 = 100$

$32 \times 10 = 320$

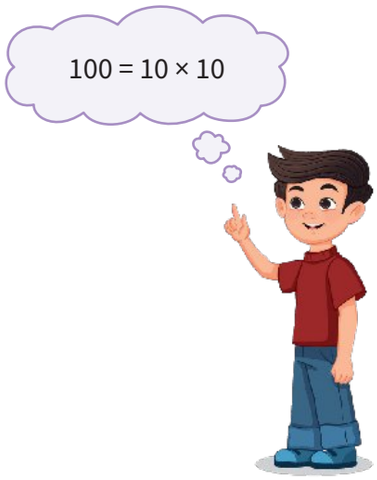
$124 \times 10 = 1240$



3 a) 2 ni 100 ga ko‘paytiring.



$2 \times 100 = 2 \times 10 \times 10$
$= 200$

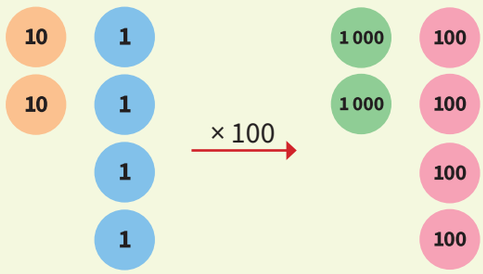


b) 10 ni 100 ga ko‘paytiring.



$10 \times 100 = 10 \times 10 \times 10$
$= 1000$

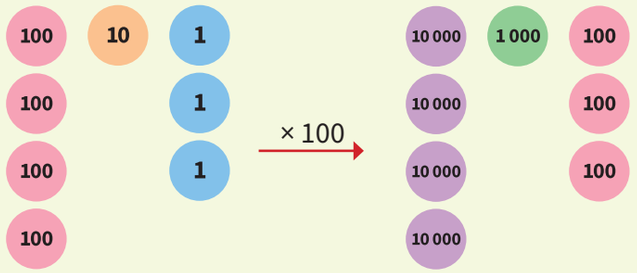
c) 24 ni 100 ga ko‘paytiring.



$24 \times 100 = 2400$

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d) 413 ni 100 ga ko‘paytiring.



$413 \times 100 = 41\,300$

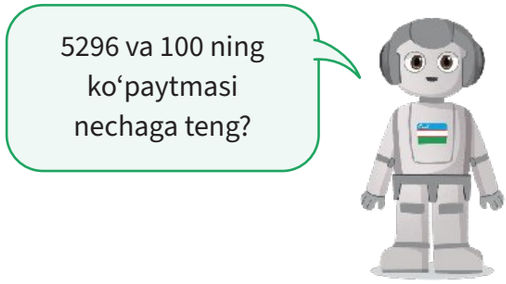
4 Sonlarni 100 ga ko‘paytirayotganda qanday qonuniyatga duch keldingiz?

$2 \times 100 = 200$

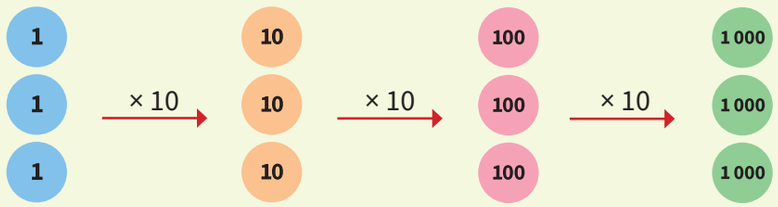
$10 \times 100 = 1000$

$24 \times 100 = 2400$

$413 \times 100 = 41\,300$



5 a) 3 ni 1000 ga ko‘paytiring.

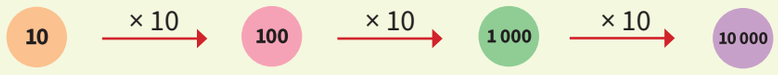


$3 \times 1000 = 3 \times 10 \times 10 \times 10$

$= 3000$



b) 10 ni 1000 ga ko‘paytiring.

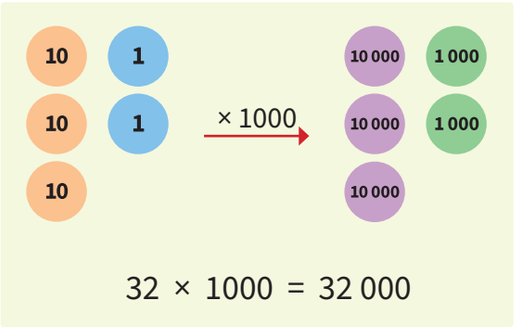


$10 \times 1000 = 10 \times 10 \times 10 \times 10$

$= 10\,000$

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c) 32 ni 1000 ga ko‘paytiring.



$32 \times 1000 = 32\,000$

6 Sonlarni 1000 ga ko‘paytirayotganda qanday qonuniyatga duch keldingiz?

$3 \times 1\mathbf{000} = 3\mathbf{000}$
$10 \times 1\mathbf{000} = 10\,\mathbf{000}$
$32 \times 1\mathbf{000} = 32\,\mathbf{000}$



Qo‘lda bajariladigan mashq





Guruh bo‘lib ishlang.
Sonni 10, 100 yoki 1000 ga ko‘paytirishni sonli tugmalar bilan tasvirlang va javobni yozing.

1 a) 43×10
b) 10×1243

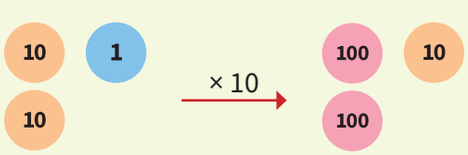
2 a) 132×100
b) 100×2304

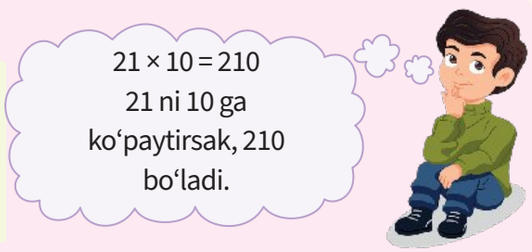
3 a) 14×1000
b) 1000×362

Sonlarni 10, 100 yoki 1000 ga ko‘paytirganda nimani sezdingiz?

Misol

21 ni 10 ga ko‘paytiring.





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Turmushda matematika

1. Bayram kuni Halimaga 20 000 so‘m pul berishdi. Kamolaga esa Halimadan 3 marta ko‘proq pul berishdi.
Kamola necha so‘m olgan?

2. Avtobusga 55 nafar odam sig‘adi. “Paxtakor” stadioniga esa undan 1000 marta ko‘proq odam sig‘adi. “Paxtakor” stadioniga necha nafar odam sig‘adi?



Bajaring va o‘rganing



1 Ko‘paytiring.

a) 53 × 10
b) 296 × 10
c) 10 × 3003
d) 17 × 100
e) 100 × 805
f) 1932 × 100
g) 12 × 1000
h) 1000 × 463
i) 2290 × 100
j) 1000 × 4008

2 Tushirib qoldirilgan sonlarni yozing.

a) 648 × ☐ = 6480
b) 13 × ☐ = 1300
c) 59 × ☐ = 59 000
d) ☐ × 100 = 45 000
e) ☐ × 1000 = 8 030 000
f) ☐ × 10 = 728 500

Mashq daftariga o‘ting **19–20**

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 18 09/08/24 19:30

Sonni o‘nlik, yuzlik va mingliklarga ko‘paytirish

Qarang va o‘rganing



1 a) 43 ni 20 ga ko‘paytiring.

$43 \times 2\mathbf{0} = 43 \times 2 \times 10$
$= 86 \times 10$
$= 86\mathbf{0}$

43 $\xrightarrow{\times 2}$ 86 $\xrightarrow{\times 10}$ 860



b) 134 ning 60 ga ko‘paytmasini toping.

$134 \times 6\mathbf{0} = 134 \times 6 \times 10$
$= 804 \times 10$
$= 804\mathbf{0}$

60 = 6 × 10 yoki 10 × 6
Men quyidagi qulay usulda ham ko‘paytira olaman:
134 $\xrightarrow{\times 10}$ 1340 $\xrightarrow{\times 6}$ 8040



2 a) 68 ni 400 ga ko‘paytiring.

$68 \times 4\mathbf{00} = 68 \times 4 \times 100$
$= 272 \times 100$
$= 27\,2\mathbf{00}$

Javobning maqbulligini chamalab tekshirish.

68 × 400
↓ ↓
70 × 400 = 28 000
68 × 400 ≈ 28 000

27 200 soni 28 000 ga yaqin.
Demak, 27 200 – maqbul javob.



b) 314 va 600 ning ko‘paytmasini toping.

$314 \times 6\mathbf{00} = 314 \times 6 \times 100$
$= 1884 \times 100$
$= 188\,4\mathbf{00}$

Avval javobni chamalab topib, keyin ko‘paytiring.

314 × 600
↓ ↓
300 × 600 = 180 000
314 × 600 ≈ 180 000

Topilgan javob maqbulmi?



Bu belgini ko‘rsangiz, javoblarni tekshirish uchun kalkulyatordan foydalaning.

Tekshirish



29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 19 09/08/24 19:30

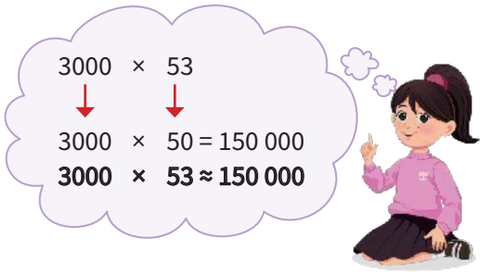
3 a) 3000 ni 53 ga ko‘paytiring.

$3\mathbf{000} \times 53 = 1000 \times 3 \times 53$

$= 1000 \times 159$

$= 159\ \mathbf{000}$

Javob to‘g‘rimi?



b) 326 ni 7000 ga ko‘paytiring.

$326 \times 7\mathbf{000} = 326 \times 7 \times 1000$

$= 2282 \times 1000$

$= 2\,282\ \mathbf{000}$



Tekshirish

Juftlikda ishlang



Jadvalning 2-qatorida berilgan ko‘paytmalarni o‘rganing va qonuniyatni aniqlang. Aniqlangan qonuniyat asosida bo‘sh kataklarni to‘ldiring va sherigingiz bilan muhokama qiling.

	× 4	× 40	× 400	× 4000
7	28	280	2800	28 000
23	92			
258	1032			

Tekshirish

Bajaring va o‘rganing



Ko‘paytirishni qulay usulda bajaring. Natijaning maqbulligini chamalab tekshiring.

a) 13×30

b) 72×40

c) 241×50

d) 23×200

e) 300×64

f) 227×600

g) 155×900

h) 308×800

i) 8×7000

j) 6000×14

Mashq daftariga o‘ting **21–24**

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 20 09/08/24 19:30

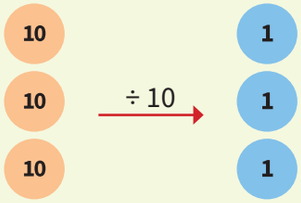
Sonni 10, 100 va 1000 ga bo‘lish

Qarang va o‘rganing



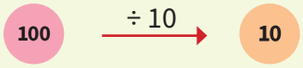
1 10 ga bo‘lish qoidalarini takrorlang.

a) 30 ni 10 ga bo‘ling.



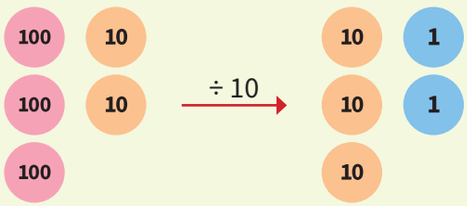
30 ÷ 10 = 3

b) 100 ni 10 ga bo‘ling.



100 ÷ 10 = 10

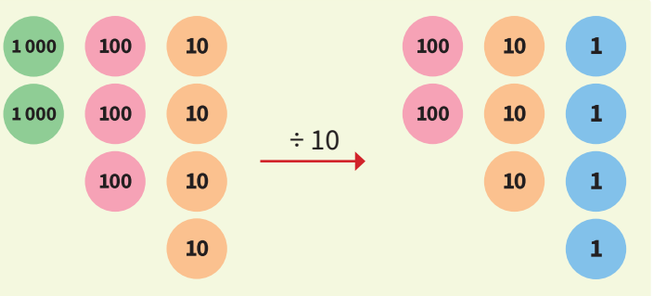
c) 320 ni 10 ga bo‘ling.



320 ÷ 10 = 32

Tekshirish 32 × 10 = 320

d) 2340 ni 10 ga bo‘ling.



2340 ÷ 10 = 234

Tekshirish 234 × 10 = 2340

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2 Sonlarni 10 ga bo‘layotganda qanday qonuniyatga duch keldingiz?

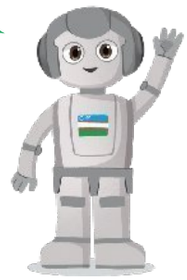
$30 \div 10 = 3$

$100 \div 10 = 10$

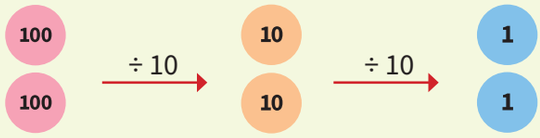
$320 \div 10 = 32$

$2340 \div 10 = 234$

87 300 ni 10 ga bo‘lganda bo‘linma necha chiqadi?



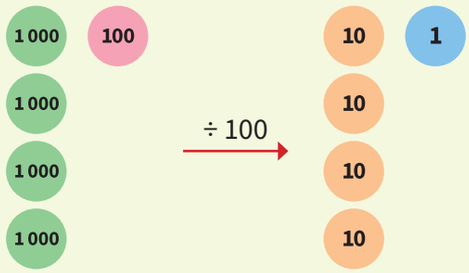
3 a) 200 ni 100 ga bo‘ling.



$200 \div 100 = 200 \div 10 \div 10$
$= 2$

Tekshirish $2 \times 100 = 200$

b) 4100 ni 100 ga bo‘ling.

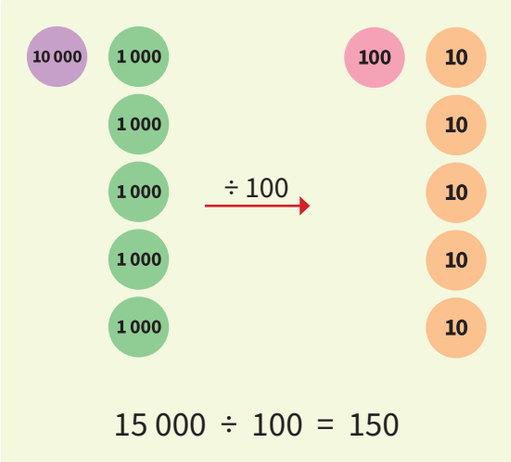


$4100 \div 100 = 41$

Tekshirish $41 \times 100 = 4100$

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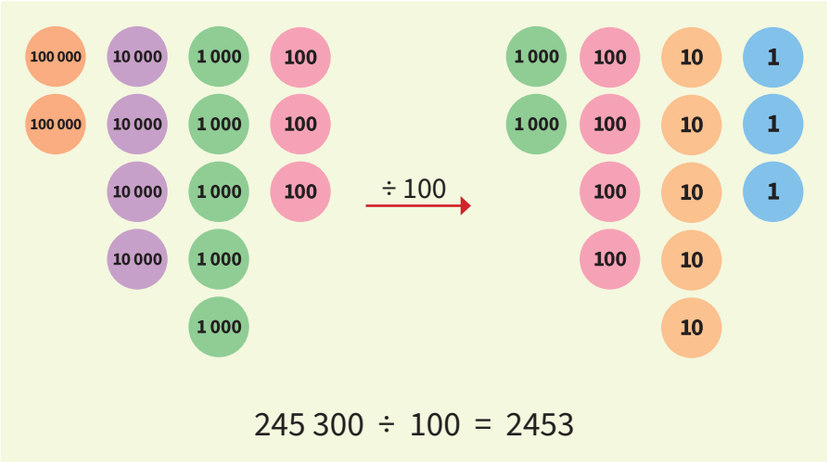
c) 15 000 ÷ 100 ning qiymatini toping.



15 000 ÷ 100 = 150

Tekshirish 150 × 100 = 15 000

d) 245 300 ÷ 100 ning qiymatini toping.



245 300 ÷ 100 = 2453

Tekshirish 2453 × 100 = 245 300

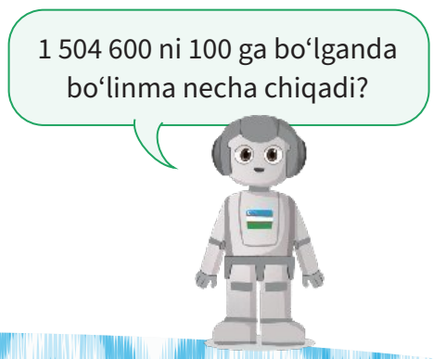
4 Sonlarni 100 ga bo‘ling. Qanday qonuniyatga duch keldingiz?

200 ÷ 100 = 2

4100 ÷ 100 = 41

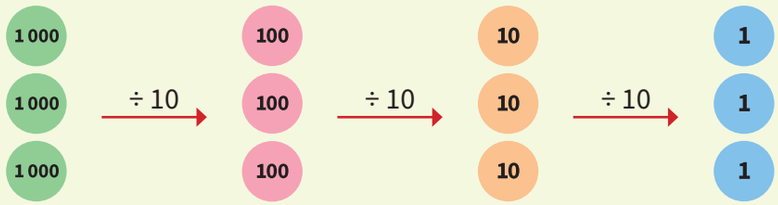
15 000 ÷ 100 = 150

245 300 ÷ 100 = 2453



29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 23 09/08/24 19:30

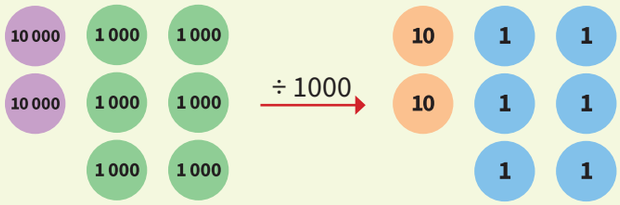
5 a) 3000 ni 1000 ga bo‘ling.



$3000 \div 1000 = 3000 \div 10 \div 10 \div 10$
$= 3$

Tekshirish $3 \times 1000 = 3000$

b) 26 000 ni 1000 ga bo‘ling.



$26\,000 \div 1000 = 26$

Tekshirish $26 \times 1000 = 26\,000$

6 Sonlarni 1000 ga bo‘layotganda qanday qonuniyatga duch keldingiz?

$3\mathbf{000} \div 1\mathbf{000} = 3$

$26\,\mathbf{000} \div 1\mathbf{000} = 26$

8 032 000 ni 1000 ga bo‘lganda bo‘linma necha chiqadi?



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Qo‘lda bajariladigan mashq



1 10 100 1 000 10 000 100 000 1000000

Guruh bo‘lib ishlang.
Sonlarni 10, 100 yoki 1000 ga bo‘lishni sonli tugmalardan foydalanib bajaring va javobni yozing.

1 a) 280 ÷ 10
b) 1390 ÷ 10

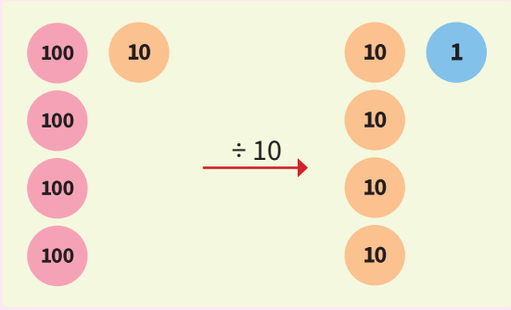
2 a) 7400 ÷ 100
b) 28 600 ÷ 100

3 a) 16 000 ÷ 1000
b) 139 000 ÷ 1000

Sonlarni 10, 100 yoki 1000 ga bo‘lganda javob bilan bog‘liq qanday qonuniyatni sezdingiz?

Misol

410 ni 10 ga bo‘ling.



410 ÷ 10 = 41
410 ni 10 ga bo‘lganda javob 41 chiqadi.



Bajaring va o‘rganing



1 Bo‘lishni bajaring.

a) 150 ÷ 10
b) 1930 ÷ 10
c) 20 740 ÷ 10
d) 700 ÷ 100
e) 5600 ÷ 100
f) 27 300 ÷ 100
g) 5000 ÷ 1000
h) 70 000 ÷ 1000
i) 238 000 ÷ 1000

2 Tushirib qoldirilgan sonlarni yozing.

a) 170 ÷ ____ = 17
b) ____ ÷ 10 = 50
c) ____ ÷ 10 = 930
d) 900 ÷ ____ = 9
e) ____ ÷ 100 = 12
f) ____ ÷ 100 = 100
g) 8000 ÷ ____ = 8
h) ____ ÷ 1000 = 12
i) ____ ÷ 1000 = 1000

Mashq daftariga o‘ting 25–26

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 25 09/08/24 19:30

Sonni o‘nlik, yuzlik va mingliklarga bo‘lish

Qarang va o‘rganing



1 a) 60 ni 20 ga bo‘ling.

$60 \div 20 = 60 \div 10 \div 2$

$= 6 \div 2$

$= 3$

Tekshirish $3 \times 20 = 60$

60 $\xrightarrow{\div 10}$ 6 $\xrightarrow{\div 2}$ 3



b) 540 ni 60 ga bo‘ling.

$540 \div 60 = 540 \div 10 \div 6$

$= 54 \div 6$

$= 9$

Tekshirish $9 \times 60 = 540$

Men quyidagi qulay usulda ham bo‘la olaman:

540 $\xrightarrow{\div 6}$ 90 $\xrightarrow{\div 10}$ 9



c) 2080 ni 80 ga bo‘ling.

$2080 \div 80 = 2080 \div 10 \div 8$

$= 208 \div 8$

$= 26$

Tekshirish

Avval sonlarni chamalab, keyin bo‘ling:

$2080 \div 80$

$\downarrow \quad \downarrow$

$2000 \div 100 = 20$

$\mathbf{2080 \div 80 \approx 20}$

Topilgan javob maqbulmi?



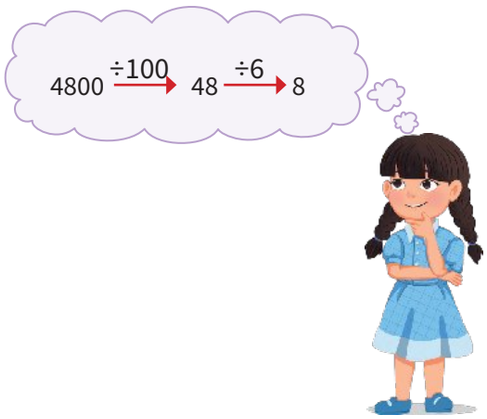
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 26 09/08/24 19:30

2 a) 4800 ni 600 ga bo‘ling.

$4800 \div 600 = 4800 \div 100 \div 6$

$= 48 \div 6$

$= 8$



b) 63 000 ni 700 ga bo‘ling.

$63\,000 \div 700 = 63\,000 \div 100 \div 7$

$= 630 \div 7$

$= 90$

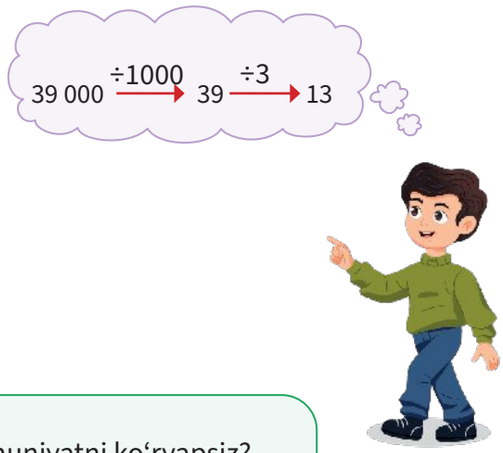
Tekshirish

3 39 000 ni 3 000 ga bo‘ling.

$39\,000 \div 3000 = 39\,000 \div 1000 \div 3$

$= 39 \div 3$

$= 13$



Tekshirish



Qanday qonuniyatni ko‘ryapsiz?

$48\mathbf{00} \div 6\mathbf{00} = 48 \div 6$

$63\,0\mathbf{00} \div 7\mathbf{00} = 630 \div 7$

$39\,\mathbf{000} \div 3\mathbf{000} = 39 \div 3$

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 27 09/08/24 19:30

Juftlikda ishlang



Jadvalni guruh bo‘lib to‘ldiring.
Jadvalning 2-qatorida berilgan bo‘linmalarni o‘rganing va qonuniyatni aniqlang. Topilgan qonuniyat asosida bo‘sh kataklarni to‘ldiring va sherigingiz bilan muhokama qiling.

	÷ 2	÷ 20	÷ 200	÷ 2000
6000	3000	300	30	3
40 000	20 000			
528 000	264 000			

Tekshirish

Bajaring va o‘rganing



Bo‘lishni qulay usulda bajaring. Natijaning maqbulligini chamalab tekshiring.

a) 90 ÷ 30

b) 280 ÷ 40

c) 8100 ÷ 90

d) 900 ÷ 300

e) 4200 ÷ 700

f) 56 000 ÷ 800

g) 44 000 ÷ 2000

h) 690 000 ÷ 6000

i) 495 000 ÷ 9000

j) 4 080 000 ÷ 8000

O‘zingizni tekshiring



Mashq daftariga o‘ting **27–30**

a) Men sonlarni:
- 10, 100 yoki 1000 ga;
- o‘nlik, yuzlik, mingliklarga ko‘paytirishni bilaman.

b) Men sonlarni:
- 10, 100 yoki 1000 ga;
- o‘nlik, yuzlik, mingliklarga bo‘lishni bilaman.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 28 09/08/24 19:30

Qavssiz ifodalarda amallarni bajarish tartibi

Qarang va o‘rganing

Faqat qo‘shish va ayirish amali qatnashgan ifodalar

1 Xonada 10 ta stul bor edi. Farrosh 4 ta stulni olib chiqib, 2 tasini qaytardi. Xonadagi stullar nechta bo‘ldi?



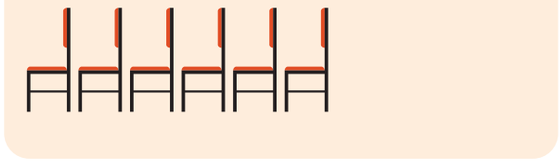
Bu – mening bajarish usulim.

$10 - 4 = 6$

$6 + 2 = 8$



4 ta stul olib chiqildi.



2 ta stul qaytarildi.



8 ta stul bo‘ldi.



Men bu usul bilan bajardim.

$10 - 4 + 2$

$= 6 + 2$

$= 8$

Xonada 8 ta stul bo‘ldi.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 29 09/08/24 19:30

2 Lobar opa bog‘dan 50 ta olma terib, 20 tasini qo‘shnilariga berdi. So‘ng yana 15 ta olma terdi. Unda jami nechta olma bo‘ldi?

1-usul

50 – 20 = 30
30 + 15 = 45

2-usul

50 – 20 + 15 = 30 + 15
= 45

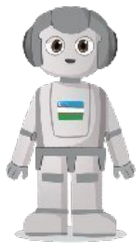
Unda 45 ta olma bo‘ldi.

3 Ifodalarning qiymatini toping.

a) $\underline{25 + 32} - 17 = \mathbf{57} - 17$
$= 40$

b) $\underline{16 - 12} + 45 - 21 = \mathbf{\underline{4 + 45}} - 21$
$= \mathbf{49} - 21$
$= 28$

Birinchi bajarilishi kerak bo‘lgan amalning tagiga chizing.



Faqat qo‘shish va ayirishni o‘z ichiga olgan ifodalarda amallar chapdan o‘ngga qarab ketma-ket bajariladi.

Juftlikda ishlang



Amallarni bajarish tartibini muhokama qiling va misollarni yeching. So‘ng imkon bo‘lsa, kalkulyatordan foydalanib javoblarni tekshiring.

a) 30 – 14 + 4
b) 60 + 30 – 18
c) 20 + 15 – 30 + 13
d) 70 – 20 + 18 – 34

Bajaring va o‘rganing



Ifodalarning qiymatini toping.

a) 55 + 16 + 27
b) 80 – 32 – 38
c) 92 – 45 + 66 – 20
d) 58 + 39 – 21 – 44

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 30 09/08/24 19:30

Qarang va o‘rganing

Faqat ko‘paytirish va bo‘lish amali qatnashgan ifodalar

1 Sitora 12 ta pishiriqni teng miqdorda uchta xaltachaga soldi va ikkita xaltachani do‘stlariga berdi. U do‘stlariga nechta pishiriq bergan?





2 ta xaltachani
do‘stlariga berdi.



Bu – mening bajarish usulim.

$12 \div 3 = 4$
$4 \times 2 = 8$



Men bu usul bilan bajardim.

$12 \div 3 \times 2$
$= 4 \times 2$
$= 8$



Sitora do‘stlariga 8 ta pishiriq berdi.

2 Mahmud 5 quti sharbat sotib oldi. Har bir qutida 6 ta sharbat bor edi. U hamma sharbatlarni uchtadan qilib kichik qutilarga solib chiqdi. U jami nechta kichik quti ishlatdi?

1-usul

$5 \times 6 = 30$
$30 \div 3 = 10$

2-usul

$5 \times 6 \div 3 = 30 \div 3$
$= 10$

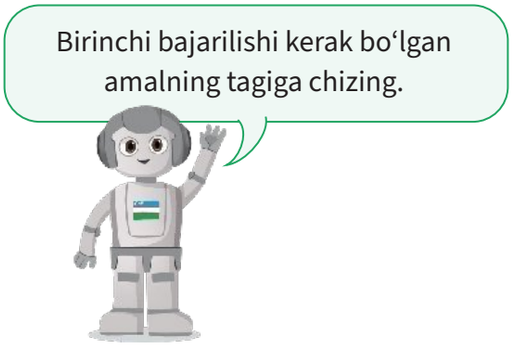
Mahmud 10 ta kichik quti ishlatdi.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 31 09/08/24 19:30

3 Ifodalarning qiymatini toping.

a) $\underline{24 \div 8} \times 2 = \mathbf{3} \times 2$
$= 6$

b) $\underline{8 \times 30} \div 6 \times 5 = \underline{\mathbf{240} \div 6} \times 5$
$= \mathbf{40} \times 5$
$= 200$



Faqat ko‘paytirish va bo‘lish qatnashgan ifodalarda amallar chapdan o‘ngga qarab ketma-ket bajariladi.

Juftlikda ishlang



Amallarni bajarish tartibini muhokama qiling va misollarni yeching. So‘ng imkon bo‘lsa, kalkulyatordan foydalanib javoblarni tekshiring.

a) $30 \div 10 \times 2$
b) $20 \times 3 \div 5$
c) $40 \times 2 \div 5 \div 4$
d) $60 \div 5 \times 3 \times 2$

Bajaring va o‘rganing



1 Ifodalarning qiymatini toping.

a) $3 \times 6 \times 5$
b) $60 \div 3 \div 4$
c) $7 \times 4 \div 7$
d) $120 \div 10 \times 6$

2 Ifodalarning qiymatini toping.

a) $40 \div 5 \times 9 \times 8$
b) $56 \times 8 \div 7 \div 4$
c) $72 \div 9 \times 5 \div 2$
d) $9 \times 12 \div 6 \times 30$

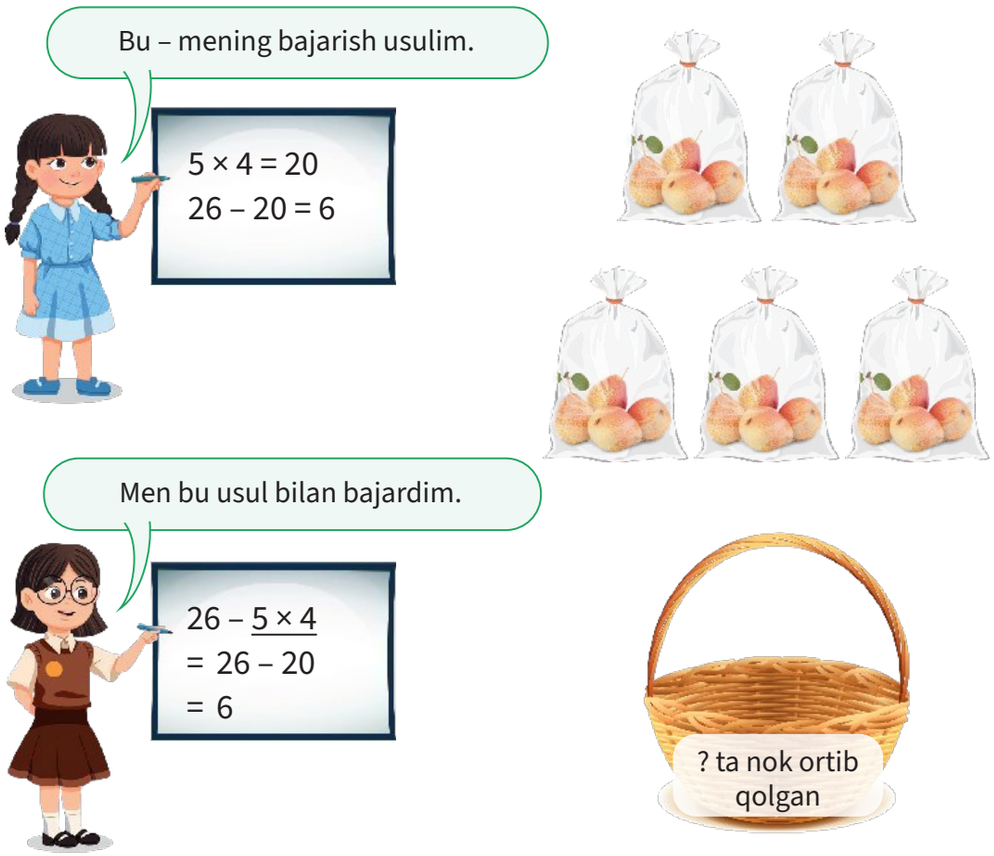
Mashq daftariga o‘ting 31–32

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 32 09/08/24 19:30

Qarang va o‘rganing

To‘rt amal

1 Maftunada 26 ta nok bor. U noklarni 4 tadan qilib 5 ta xaltaga solib chiqdi. Nechta nok ortib qoldi?



6 ta nok ortib qoldi.

2 Xonada dastlab 16 ta stul bor edi. Laziza opa xonaga yana har birida 8 tadan stul bo‘lgan 3 qator stul olib kirdi. Xonada jami nechta stul bo‘ldi?

1-usul

$3 \times 8 = 24$

$16 + 24 = 40$

2-usul

$16 + \underline{3 \times 8} = 16 + \mathbf{24}$

$= 40$

Xonada jami 40 ta stul bo‘ldi.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 33 09/08/24 19:30

3 Maktab sport maydonida 120 nafar o‘quvchi bor edi. Ular 4 ta guruhga teng bo‘lindi. Har bir guruhdan 18 nafardan o‘quvchi kurash musobaqasiga tanlab olindi. Har bir guruhdan nechta o‘quvchi kurash musobaqasida ishtirok etish uchun tanlanmadi?

1-usul

$120 \div 4 = 30$
$30 - 18 = 12$

2-usul

$\underline{120 \div 4} - 18 = \mathbf{30} - 18$
$= 12$

Har bir guruhdan 12 nafar o‘quvchi kurash musobaqasida ishtirok etish uchun tanlanmadi.

4 Ifodalarning qiymatini toping.



a) $\underline{80 \div 10} - 3 \times 2 = \mathbf{8} - \underline{3 \times 2}$
$= 8 - \mathbf{6}$
$= 2$

b) $90 - \underline{30 \times 8} \div 4 = 90 - \underline{\mathbf{240} \div 4}$
$= 90 - \mathbf{60}$
$= 30$

c) $\underline{50 \times 8} + 15 \div 3 = \mathbf{400} + \underline{15 \div 3}$
$= 400 + \mathbf{5}$
$= 405$

d) $60 - 15 + \underline{12 \div 3} \times 2 = 60 - 15 + \underline{\mathbf{4} \times 2}$
$= \underline{60 - 15} + \mathbf{8}$
$= \mathbf{45} + 8$
$= 53$

Qavslar ishtirok etmagan ifodalarda amallarni bajarish tartibi:

- Dastlab chapdan o‘ngga ko‘paytirish yoki bo‘lish amallari bajariladi.
- So‘ng chapdan o‘ngga qo‘shish yoki ayirish amallari bajariladi.

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Qo‘lda bajariladigan mashq



Guruh bo‘lib ishlang.

Quyidagi jadvalda berilgan ifodalarning qiymatini kalkulyatordan foydalanib toping. Amallarni kalkulyatorda bajarish tartibini muhokama qiling.

Nima uchun amallarni bajarish tartibi muhim ekanini tushuntiring.

	Amallarni bajarish tartibi				
Ifoda	**+**	**–**	**×**	**÷**	**Javob**
8 – 3 × 2		ikkinchi	birinchi		2
15 + 15 ÷ 5					
12 – 4 + 2					
10 × 5 + 10					
100 ÷ 10 – 5					
4 × 5 + 2 × 6					
20 ÷ 2 – 2 ÷ 1					
4 × 2 – 30 ÷ 6					

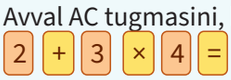
Misol

2 + 3 × 4 = ?

	Amallarni bajarish tartibi			
Ifoda	**+**	**–**	**×**	**÷**
2 + 3 × 4	ikkinchi		birinchi	

Tekshirish

Avval AC tugmasini, keyin



tugmalarini bosing.



Quyida 2 + 3 × 4 misoldagi amallarni kalkulyator qanday tartibda bajarishi ko‘rsatilgan. Kalkulyator dastlab 3 × 4 ni hisoblaydi. So‘ng ko‘paytmaga 2 ni qo‘shadi.



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Juftlikda ishlang



Juftlikda muhokama qiling.

Tenglik to‘g‘ri bo‘lishi uchun bo‘sh joylarga +, –, × yoki ÷ amal belgilaridan mosini yozing. Javoblarni kalkulyatordan foydalanib tekshiring.

a) 5 ☐ 3 ☐ 4 = 19

b) 42 ☐ 14 ☐ 7 = 40

c) 24 ☐ 3 ☐ 5 ☐ 4 = 28

d) 16 ☐ 10 ☐ 2 ☐ 5 = 20

Bajaring va o‘rganing



Ifodalarning qiymatini toping.

a) $7 \times 9 - 3 \times 3$

b) $8 + 4 \times 3 \div 2$

c) $28 - 6 \times 2 + 14$

d) $16 + 36 \div 9 \times 5$

e) $56 \div 7 + 6 \times 8$

f) $100 \times 10 \div 50 + 100$

g) $30 + 30 \times 3 \div 10$

h) $25 - 6 \times 4 + 1$

i) $48 - 40 \div 4 \times 3$

j) $39 \div 3 - 2 \times 5 + 1$

Mashq daftariga o‘ting 33–34

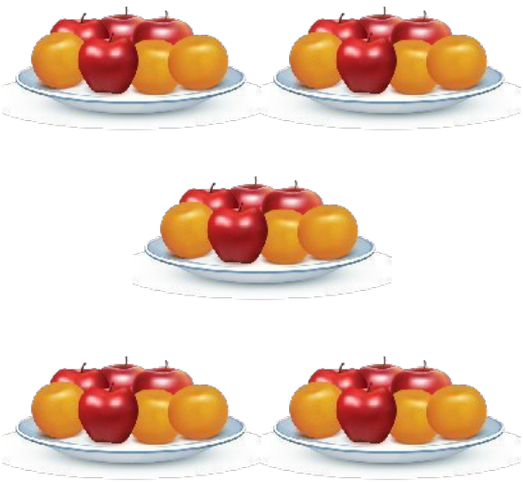
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 36 09/08/24 19:30

Qavsli ifodalarda amallarni bajarish tartibi

Qarang va o‘rganing

To‘rt amal

1 Lobar opaning 5 ta likopchasi bor. U har bir likopchaga 4 tadan olma va 3 tadan apelsin qo‘ydi. Likopchalarga jami nechta meva qo‘yildi?



Bu – mening bajarish usulim.

$4 + 3 = 7$
$7 \times 5 = 35$



Men qavslardan foydalanib bu usulda bajardim.

$(4 + 3) \times 5$
$= 7 \times 5$
$= 35$



2 Har birida 6 tadan tuxum bo‘lgan 8 ta quti bor. Jamila har bir qutidan 2 tadan tuxum oldi. Qutilarda jami nechta tuxum qoldi?

1-usul

$6 - 2 = 4$
$8 \times 4 = 32$

2-usul

$8 \times (6 - 2) = 8 \times \mathbf{4}$
$= 32$

8 ta qutida jami 32 ta tuxum qoldi.

Dastlab qavs ichidagi amallarni bajaring.



29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 37 09/08/24 19:30

3 Ifodalarning qiymatini toping.

a) $32 - \underline{(48 - 24)} = 32 - \mathbf{24}$
$= 8$

b) $32 \div \underline{(40 \div 5)} = 32 \div \mathbf{8}$
$= 4$

c) $\underline{(88 - 3)} \div \underline{(15 \div 3)} = \mathbf{85} \div \mathbf{5}$
$= 17$

d) $\underline{(700 - 150)} \div 5 \div \underline{(5 \times 2)} = \underline{\mathbf{550} \div 5} \div \mathbf{10}$
$= \mathbf{110} \div 10$
$= 11$

Tekshirish

Avval AC tugmasini, keyin quyidagi tugmalarni bosing:

3 2 – (4 8 – 2 4) =



Qavslar ishtirok etgan ifodalarda amallarni bajarish tartibi:

- Dastlab qavs ichidagi amallarni bajaring.
- Keyin chapdan o‘ngga ko‘paytiring yoki bo‘ling.
- So‘ng chapdan o‘ngga qo‘shing yoki ayiring.

Juftlikda ishlang



Amallarni bajarish tartibini muhokama qiling va ifodalarning qiymatini toping. So‘ng kalkulyatordan foydalanib javoblarni tekshiring.

a) $(38 - 6) \times 2$
b) $56 \div (4 \times 2)$
c) $70 - (12 + 43)$
d) $(8 \times 8) - (20 \times 3)$
e) $(60 \div 6) \times (5 + 7) - 45$
f) $5 \times (100 \div 4) \times (4 + 10)$

Bajaring va o‘rganing



Ifodalarning qiymatini toping va kalkulyatordan foydalanib javoblarni tekshiring.

a) $27 - (69 - 46)$
b) $(9970 + 830) \div 30$
c) $280 \div 70 \times (15 + 45)$
d) $108 + (93 - 57) \times 8$

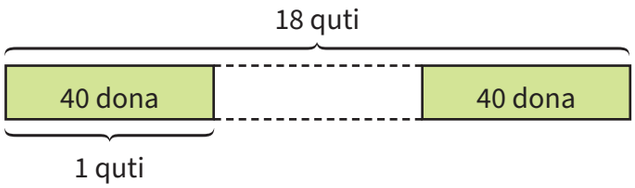
Mashq daftariga o‘ting **35–36**

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 38 09/08/24 19:30

Matnli masalalar

Qarang va o‘rganing

1 Yusuf aka har bir qutiga 40 donadan daftar joyladi. U har bir daftarni 3300 so‘mdan sotgan bo‘lsa, 18 quti daftar necha so‘mga sotilgan?



40 × 3300 = 132 000
18 × 132 000 = 2 376 000

18 quti daftar 2 376 000 so‘mga sotilgan.

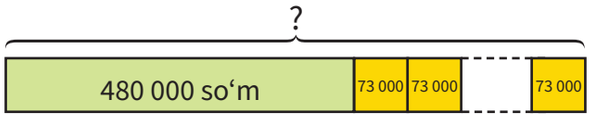
Men masalani quyidagi usulda ham yecha olaman:
40 × 3300 × 18 = 2 376 000

Tekshirish



40 × 3300 × 18
40 × 3000 × 20 = 2 400 000
40 × 3300 × 18 ≈ 2 400 000
2 376 000 so‘m – to‘g‘ri javob, chunki u 2 400 000 so‘mga yaqin.

2 Tolib aka televizor sotib olmoqchi. U buning uchun dastlab 480 000 so‘m to‘ladi va keyin 12 oy davomida har oy 73 000 so‘mdan to‘laydigan bo‘ldi. Televizorning narxi qancha?



73 000 × 12 = 876 000
876 000 + 480 000 = 1 356 000

Televizorning narxi 1 356 000 so‘m.

Men masalani quyidagi usulda ham yecha olaman:
73 000 × 12 + 480 000 = 1 356 000

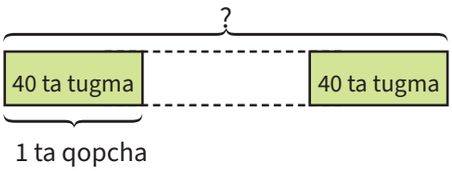
Tekshirish

Javob to‘g‘rimi?



29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 39 09/08/24 19:30

3 Madina opaning 28 quti tugmasi bo‘lib, har bir qutida 200 tadan tugma bor. U 600 ta tugma sotdi va qolgan tugmalarni 40 tadan qilib qopchalarga solib qo‘ydi. U nechta qopchaga tugma solgan?



200 × 28 = 5600
5600 – 600 = 5000
5000 ÷ 40 = 125

U 125 ta qopchaga tugma solgan.

Men masalani quyidagi usulda ham yecha olaman:
(200 × 28 – 600) ÷ 40 = 125

Tekshirish

Javob to‘g‘rimi?

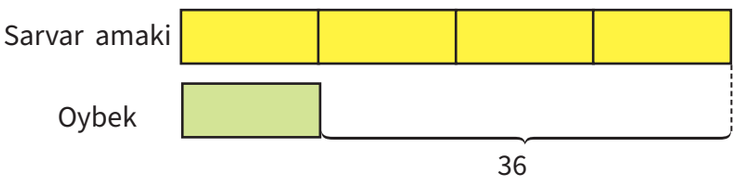


4 Sarvar amaki 45 yoshda. Uning o‘g‘li Oybek 9 yoshda. Necha yildan keyin Sarvar amaki o‘g‘lidan 4 marta katta bo‘ladi?

45 – 9 = 36

Yoshdagi farq 36 yil.

Bu yosh farqi **hech qachon o‘zgarmaydi.**



3 bo‘lak = 36
1 bo‘lak = 36 ÷ 3
= 12

Men masalani quyidagi usulda ham yecha olaman:
(45 – 9) ÷ 3 – 9 = 3

Tekshirish

Javob to‘g‘rimi?



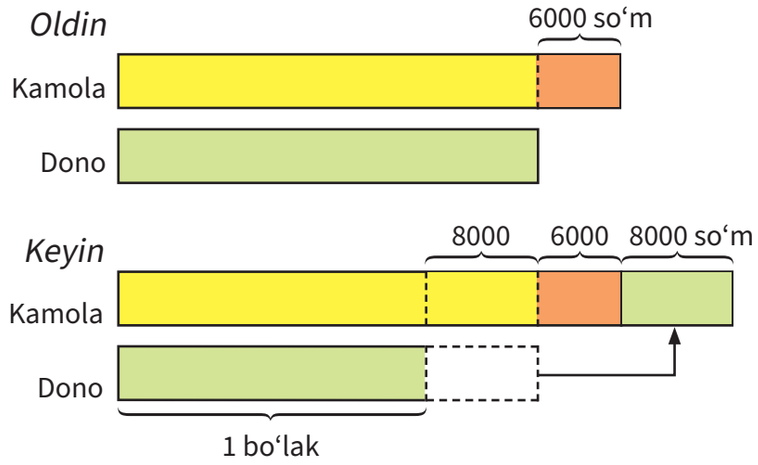
Oybek 12 yosh bo‘lganda otasi undan 4 marta katta bo‘ladi.

12 – 9 = 3

Sarvar amaki uch yildan keyin o‘g‘lidan 4 marta katta bo‘ladi.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 40 09/08/24 19:30

5 Dastlab Kamolaning puli Dononikidan 6000 so‘m ko‘p edi. So‘ng Dono Kamolaga 8000 so‘m berdi. Endi Kamolaning puli Dononikidan ikki baravar ko‘p bo‘ldi. Kamolada dastlab qancha pul bo‘lgan?



Keyin

1 bo‘lak = (2 × 8000) + 6000

= 22 000 (so‘m)

Oldin

22 000 + 8000 + 6000 = 36 000 (so‘m)

Kamolada dastlab 36 000 so‘m pul bo‘lgan.

Qiziqarli matematika

O‘rganing va bo‘lishing



Guruh bo‘lib ishlang.

Quyidagi masalalarni muhokama qiling va yeching.

1. Do‘kondan 205 400 so‘mga 9 ta daftar va 17 ta qalam sotib olindi. Bitta qalam 6550 so‘m tursa, bitta daftarning narxini toping.

2. Tadbirda dastlab 90 nafar o‘g‘il bola va 150 nafar qiz bor edi. Tushga borib tadbirni teng sondagi o‘g‘il bolalar va qizlar tark etdi. Shundan so‘ng tadbirda qolgan qizlar soni o‘g‘il bolalar sonidan uch baravar ko‘p bo‘ldi. Jami nechta o‘g‘il bola va qizlar tadbirdan ketgan?

3. Dono va Kamolada jami 478 ta stiker bor edi. Akmal va Donoda esa 232 ta stiker bor edi. Kamolaning stikerlari soni Akmalnikidan 4 baravar ko‘p. Donoda nechta stiker bor?

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Bajaring va o‘rganing



Matnli masalalarni yeching.

1 O‘quv kursida ishtirok etish uchun 28 nafar o‘quvchi ro‘yxatdan o‘tdi. Har bir o‘quvchi oyiga 50 000 so‘m to‘ladi va kurs 4 oy davom etdi. O‘quv kursi uchun yig‘ilgan umumiy mablag‘ning miqdori qancha?

2 Perimetri 272 m bo‘lgan to‘g‘ri to‘rtburchak shaklidagi dalaning eni bo‘yidan 16 m uzun. Dalaning enini toping.

3 Jadvalda ko‘ngilochar bog‘dagi chiptalar narxi ko‘rsatilgan. 87 nafar katta yoshli va 96 nafar bola chipta uchun jami qancha pul to‘lashi kerak?

Ko‘ngilochar bog‘	
Kattalar chiptasi	25 000 so‘m
Bolalar chiptasi	13 000 so‘m

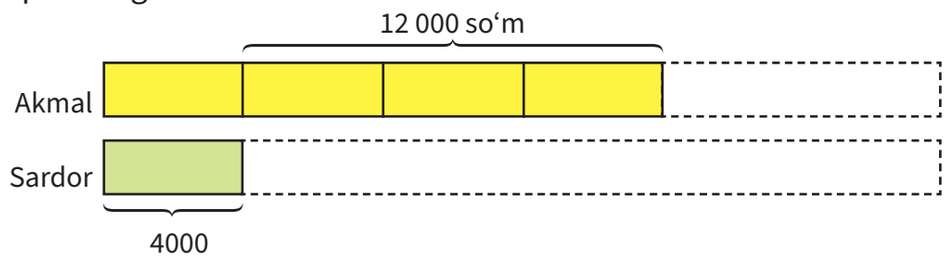
4 Ishchiga haftaning birinchi 5 kuniga 72 000 so‘mdan va shanba kuni uchun 85 000 so‘m ish haqi to‘lanadi. Agar ishchi dushanbadan shanbagacha ishlagan bo‘lsa, jami qancha ish haqi olgan?

5 Jamshid amaki 6 948 000 so‘mga xonadoniga uchta konditsioner o‘rnatdi. U dastlab 2 508 000 so‘m to‘ladi va qolgan pulni 24 oy davomida teng miqdorda to‘lab bordi. U har oy qancha pul to‘lagan?

6 Stol va 7 ta bir xil stul jami 8 550 000 so‘m turadi. Bitta stul stoldan 250 000 so‘m arzonroq bo‘lsa, stolning narxini toping.

7 Novvoy 308 ta nonni savatlarga 12 tadan soldi. U har bir savat nonni 23 000 so‘mdan, qolgan nonlarning donasini 3000 so‘mdan sotdi. Novvoy nonlarni jami necha so‘mga sotgan?

8 Akmal va Sardorda dastlab bir xil miqdorda pul bor edi. Har kuni Akmal 6000 so‘m, Sardor 8000 so‘m sarfladi. Bir necha kundan keyin Sardorda 4000 so‘m qoldi, Akmalda esa Sardordan 4 baravar ko‘p pul qoldi. Bolalarning har birida dastlab qanchadan pul bo‘lgan?



Masalani yechish uchun chizmali modeldan foydalaning.

Mashq daftariga o‘ting **37–46**

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Qiziqarli matematika

O‘rganing va bo‘lishing

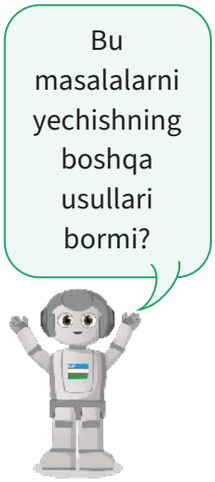


Guruh bo‘lib ishlang.
Javoblarni guruhdoshlaringiz bilan muhokama qiling.

1 10 nafar tennischi bor edi.
Har bir tennischi qolgan 9 nafar raqibi bilan bittadan o‘yin o‘tkazadi. Jami nechta o‘yin rejalashtirilgan?

Jadval tuzing. Rejalashtirilgan o‘yinlarni belgilang va ularni sanang.

	A	B	C	D	E	F	G	H	I	J
A										
B										
C										
D										
E										
F										
G										
H										
I										
J										



2 Jamoa matematika musobaqasida 20 ta savolga javob berib, 120 ball to‘pladi.
Har bir to‘g‘ri javob uchun 8 ball beriladi, har bir noto‘g‘ri javob uchun esa 2 ball olib tashlanadi.
Jamoa jami nechta savolga to‘g‘ri javob bergan?

O‘zingizni tekshiring



Mashq daftariga o‘ting **47–50**

a) Men qavssiz ifodalarda amallarni bajarish tartibini bilaman.

b) Men qavsli ifodalarda amallarni bajarish tartibini bilaman.

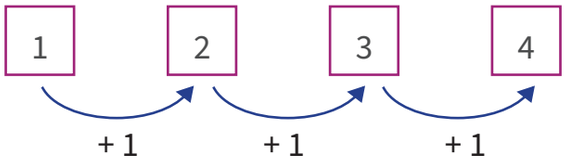
c) Men to‘rtta amal qatnashgan masalalarni yechishni bilaman.

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O‘ylab ko‘ring



Berilgan 4 ta sonni quyidagicha tartiblab, sonlar ketma-ketligi hosil qilindi.

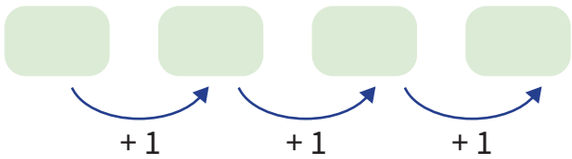


$1 + 2 + 3 + 4 = 10$

4 ta raqamning yig‘indisi 10 ga teng.



Boshqa 4 ta sonni xuddi shunday usulda tartiblab, sonlar ketma-ketligi hosil qilindi. Berilgan 4 ta sonning yig‘indisi 250 bo‘lsa, ushbu sonlarni toping.



Mashq daftariga o‘ting **51–54**

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3 Oddiy kasrlar

Muhokama qiling



Bolalar bayramda

Mening likopchamda tortning $\frac{1}{4}$ bo‘lagi bor.

Oyim tortni 12 ta bo‘lakka bo‘ldi. Akmal, sening likopchangda tortning qancha bo‘lagi bor?

Sardor, shirin kulchalarning qancha qismi shokoladli?

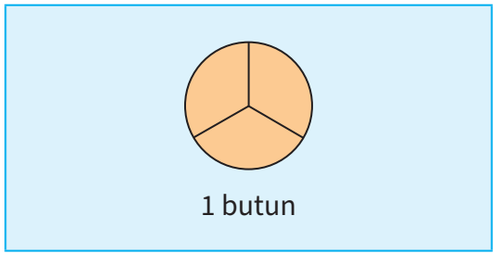
Himm... $\frac{6}{10}$ qismimi?

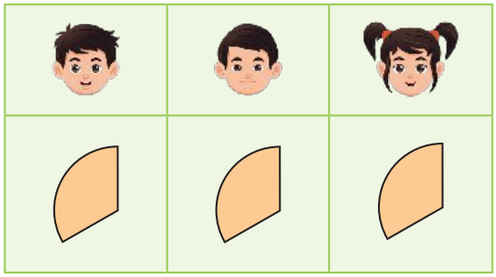
Sonlarni bo‘lishni kasr ko‘rinishida ifodalash

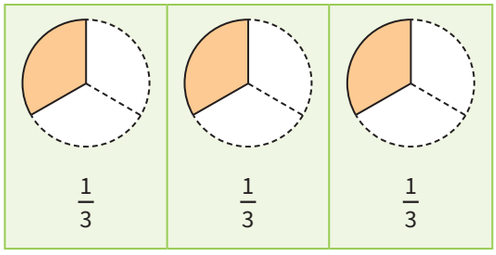
Qarang va o‘rganing



1 a) Pitsa uch nafar bolaga teng bo‘lib berildi. Har bir bola pitsaning qanday qismini olgan?







3 nafar bola va 1 ta pitsa bor.



Har bir bola pitsaning $\frac{1}{3}$ qismini olgan.



$\frac{1}{3} = 1 \div 3$



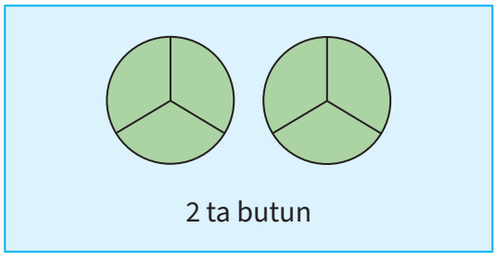
1 ta pitsa 3 ta teng qismga bo‘lindi.

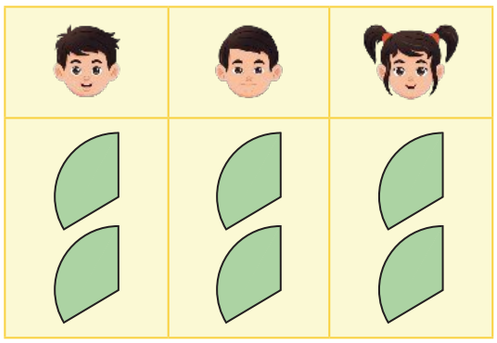
$1 \div 3 = \frac{1}{3}$

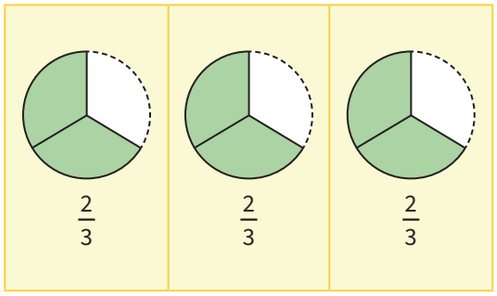
Har bir bola pitsaning $\frac{1}{3}$ qismini olgan.

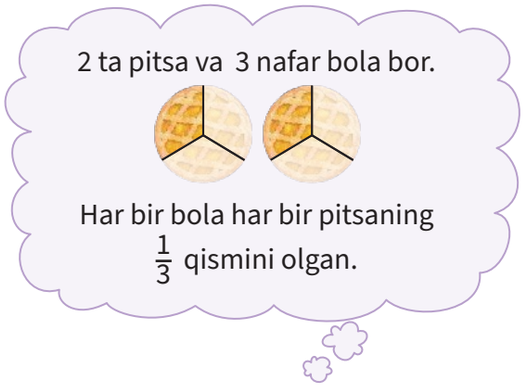
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b) 2 ta pitsa 3 nafar bolaga teng bo‘lib berildi.
Har bir bola pitsaning qanday qismini olgan?













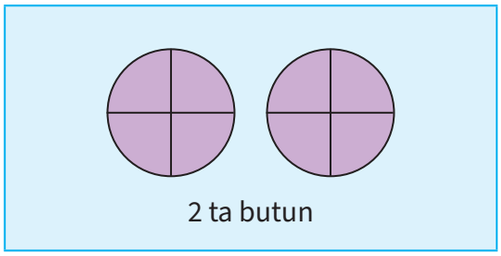
2 ta pitsaning har biri 3 ta teng qismga bo‘lingan.

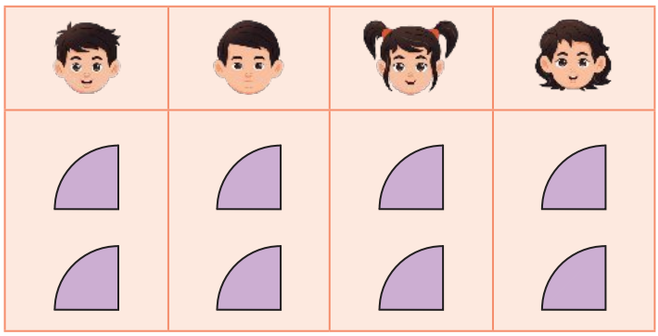
$2 \div 3 = \frac{2}{3}$

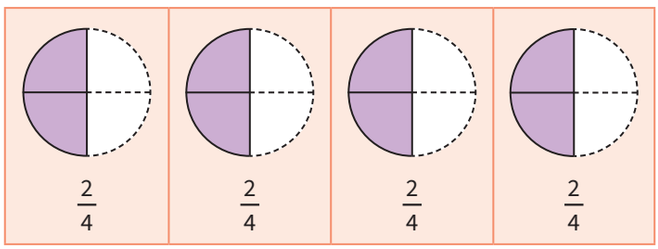
Har bir bola pitsaning $\frac{2}{3}$ qismini olgan.

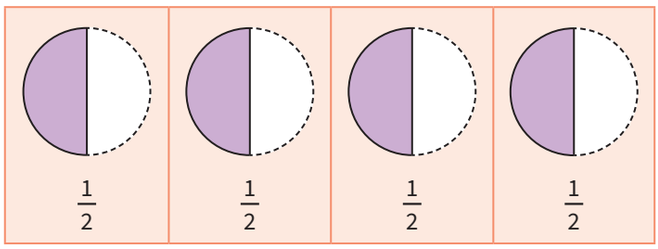
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 47 09/08/24 19:31

2 a) 2 ta tortni 4 nafar bolaga teng bo‘lib bering. Har bir bola tortning qanday qismini oladi? Javobni oddiy kasr ko‘rinishida ifodalang.









2 ta tortning har biri 4 ta teng qismga bo‘lingan.

$2 \div 4 = \frac{2}{4}$

$= \frac{1}{2}$

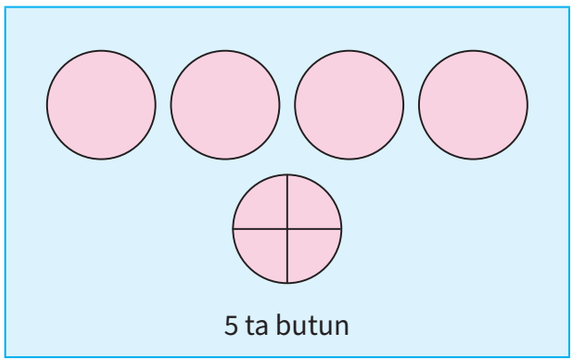
Har bir bola bitta tortning $\frac{1}{2}$ qismini oladi.



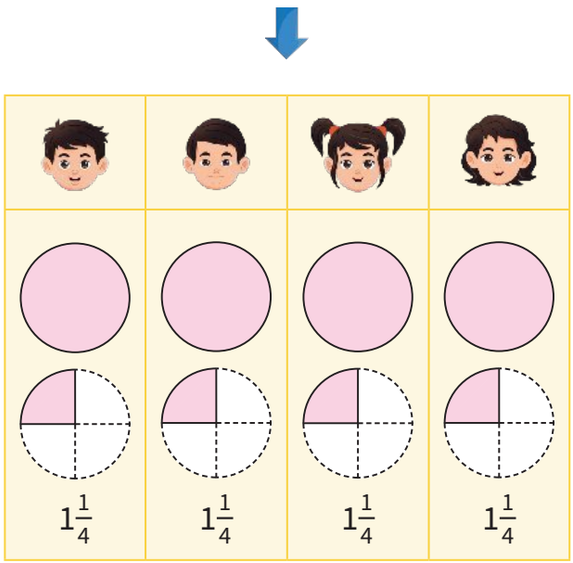


29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 48 09/08/24 19:31

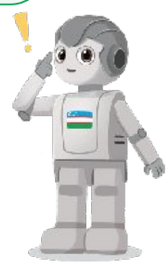
b) 5 ta tortni 4 nafar bolaga teng bo‘lib bering. Har bir bola tortning qanday qismini oladi? Javobni aralash son ko‘rinishida ifodalang.



5 ta butun



5 ta tort va 4 nafar bola bor. Dastlab har bir bola 1 tadan butun tort oladi. So‘ng 5-tortni 4 ta teng bo‘lakka bo‘linadi va har bir bola uning $\frac{1}{4}$ qismini oladi.



$\frac{5}{4} = 5 \div 4$



$5 \div 4 = \frac{5}{4}$

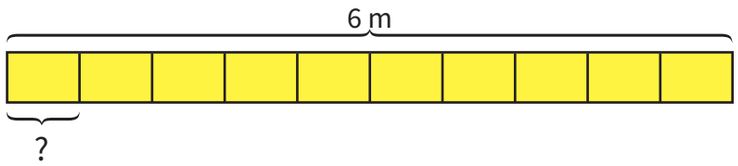
$= \frac{4}{4} + \frac{1}{4}$

$= 1\frac{1}{4}$

Har bir bola $1\frac{1}{4}$ ta tort oladi.

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3 6 m uzunlikdagi tasma 10 ta teng bo‘lakka bo‘lindi. Har bir bo‘lakning uzunligi qancha? Javobni oddiy kasr ko‘rinishida ifodalang.



$6 \div 10 = \frac{6}{10}$

$= \frac{3}{5}$

Har bir tasma bo‘lagining uzunligi $\frac{3}{5}$ m.



Qiziqarli matematika

O‘rganing va bo‘lishing

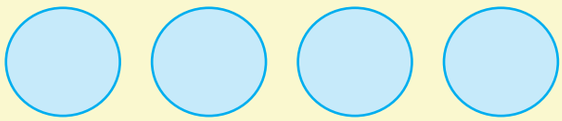


Guruh bo‘lib ishlang.

1 Har bitta doira bitta quymoqni ifodalaydi.

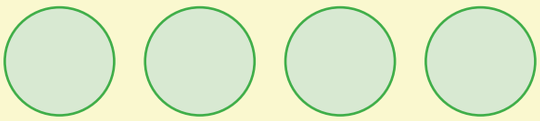
a) Har bir bola nechta quymoq oladi?

4 ta quymoqni 3 nafar bolaga teng bo‘lib bering.



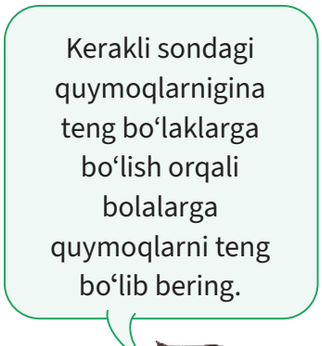
b) Har bir bola quymoqning qancha qismini oladi?

4 ta quymoqni 6 nafar bolaga teng bo‘lib bering.



4 ta quymoqni 8 nafar bolaga teng bo‘lib bering.





2 Bo‘lishning kasrga qanday aloqasi borligini tushuntiring.

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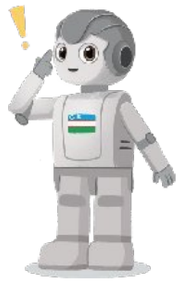
Juftlikda ishlang



Juftlikda muhokama qiling.
Berilgan masalalardagi kasr va bo‘lish o‘rtasidagi aloqani ko‘rsating.

a) 12 metrli arqon 3 ta teng bo‘lakka bo‘lingan. Har bir bo‘lakning uzunligi qancha?
b) 3 metrli arqon 12 ta teng bo‘lakka bo‘lingan. Har bir bo‘lakning uzunligi qancha?

Javobingizni sherigingizga tushuntiring.



Bajaring va o‘rganing



1 a) Bitta pitsani 6 nafar bolaga teng taqsimlab bering.
Har bir bola pitsaning qancha qismini oladi?



b) 3 ta shokoladni 5 nafar bolaga teng taqsimlab bering.
Har bir bola shokoladning qancha qismini oladi?



2 Javobni oddiy kasr ko‘rinishida ifodalang.

a) $4 \div 6$ b) $3 \div 12$ c) $6 \div 8$ d) $2 \div 10$

3 Javobni aralash son ko‘rinishida ifodalang.
Bo‘lish qanday amalga oshirilganini ko‘rsating.

a) $7 \div 4$ b) $5 \div 2$ c) $20 \div 9$ d) $23 \div 6$

Mashq daftariga o‘ting 55–58

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Oddiy kasrni o‘nli kasrga aylantirish

Qarang va o‘rganing



1 3 kg li tort 5 nafar bola o‘rtasida teng taqsimlandi. Har bir bola tortning qancha qismini olgan? Javobni o‘nli kasr ko‘rinishida ifodalang.

1-usul

$3 \div 5 = \frac{3}{5}$

$= \frac{6}{10}$

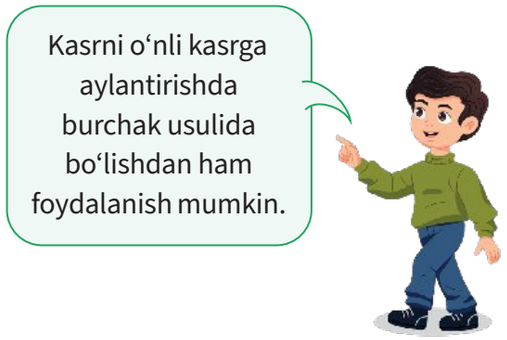
$= 0,6$

2-usul

$3 \div 5 = 0,6$

$$\begin{array}{r|l} 3,0 & 5 \\ \underline{-\,30} & \underline{0,6} \\ 0 & \end{array}$$



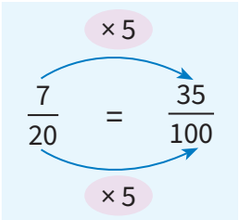


Har bir bola 0,6 kg tort olgan.

2 Quyidagi oddiy kasrlarni o‘nli kasr ko‘rinishida ifodalang.

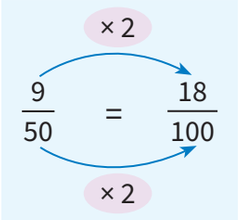
a) $\frac{7}{20} = \frac{35}{100}$

$= 0,35$



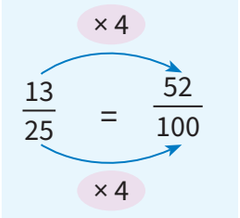
b) $\frac{9}{50} = \frac{18}{100}$

$= 0,18$



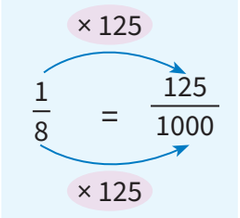
c) $\frac{13}{25} = \frac{52}{100}$

$= 0,52$



d) $\frac{1}{8} = \frac{125}{1000}$

$= 0,125$



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3 a) $\frac{2}{9}$ ni o‘nli kasr ko‘rinishida ifodalang. Javobni o‘ndan birlar xonasigacha yaxlitlang.

$\frac{2}{9} = 0{,}2$ (o‘ndan birlar xonasigacha)

$$\begin{array}{r|l} 2{,}00 & 9 \\ \underline{-\ 18} & \overline{0{,}22\ldots} \\ 20 & \\ \underline{-\ 18} & \\ 2 & \end{array}$$

b) $\frac{6}{11}$ ni o‘nli kasr ko‘rinishida ifodalang. Javobni yuzdan birlar xonasigacha yaxlitlang.

$\frac{6}{11} = 0{,}55$ (yuzdan birlar xonasigacha)

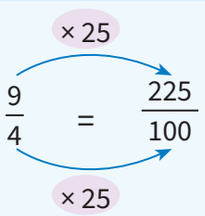
$$\begin{array}{r|l} 6{,}000 & 11 \\ \underline{-\ 5\,5} & \overline{0{,}545\ldots} \\ 50 & \\ \underline{-\ 44} & \\ 60 & \\ \underline{-\ 55} & \\ 5 & \end{array}$$

4 $\frac{9}{4}$ ni o‘nli kasr ko‘rinishida ifodalang.

1-usul

$\frac{9}{4} = \frac{225}{100}$

$= 2{,}25$



2-usul

$\frac{9}{4} = 9 \div 4$

$= 2{,}25$

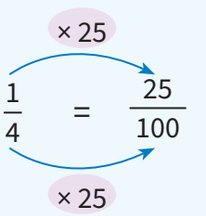
$$\begin{array}{r|l} 9{,}00 & 4 \\ \underline{-\ 8} & \overline{2{,}25} \\ 10 & \\ \underline{-\ 8} & \\ 20 & \\ \underline{-\ 20} & \\ 0 & \end{array}$$

3-usul

$\frac{9}{4} = \frac{4}{4} + \frac{4}{4} + \frac{1}{4}$

$= 2\frac{1}{4}$

$= 2{,}25$



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Qiziqarli matematika

O‘rganing va bo‘lishing



Guruh bo‘lib ishlang.

a) Berilgan oddiy kasrlarni o‘nli kasrga aylantirish usullarini muhokama qiling. Oddiy kasrlarni o‘nli kasrga aylantirish jarayonida maxrajlar bilan bog‘liq nimani payqadingiz?

$\frac{7}{2}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{13}{20}$	$\frac{8}{5}$	$\frac{6}{25}$	$\frac{47}{50}$

b) Maxraji 3, 6, 7 va 9 bo‘lgan kasrlarni yozing.
Kasrlarni o‘nli kasrga aylantirish usullarini muhokama qiling.

c) b) topshiriqdagi o‘nli kasrlarni yuzdan birlar xonasigacha yaxlitlang.

Tekshirish

Juftlikda ishlang



Juftlikda ishlang.

1 Quyidagi oddiy kasrlarni o‘nli kasr ko‘rinishida ifodalang.

a) $\frac{1}{11}$ b) $\frac{2}{11}$ c) $\frac{3}{11}$ d) $\frac{4}{11}$

Yozilgan o‘nli kasrlarda biror qonuniyat bormi?

2 1-misoldagi qonuniyat asosida quyidagi kasrlarni navbat bilan, kalkulyatordan foydalanmasdan o‘nli kasr ko‘rinishida ifodalang. So‘ng sherigingizning javobini kalkulyatordan foydalanib tekshiring.

a) $\frac{5}{11}$ b) $\frac{6}{11}$ c) $\frac{7}{11}$ d) $\frac{8}{11}$

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Bajaring va o‘rganing



1 Quyidagi kasrlarni o‘nli kasr ko‘rinishida ifodalang.

a) $\frac{4}{5}$ b) $\frac{3}{4}$ c) $\frac{9}{25}$

d) $\frac{11}{20}$ e) $\frac{21}{50}$ f) $\frac{6}{125}$

2 Quyidagi kasrlarni o‘nli kasr ko‘rinishida ifodalang.
Javoblarni o‘ndan birlar xonasigacha yaxlitlang.

a) $\frac{7}{3}$ b) $\frac{13}{7}$

3 3 ℓ apelsin sharbati 4 ta stakanga teng miqdorda quyildi. Har bir stakanda qancha apelsin sharbati bor? Javobni o‘nli kasr ko‘rinishida ifodalang.

4 10 kg shakar 8 ta idishga teng taqsimlandi. Har bir idishda necha kilogramm shakar bor? Javobni o‘nli kasr ko‘rinishida ifodalang.

5 6 kg pechenye 4 nafar bola o‘rtasida teng taqsimlandi. Har bir bola necha kilogramm pechenye olgan? Javobni o‘nli kasr ko‘rinishida ifodalang.

Mashq daftariga o‘ting **59–62**

O‘zingizni tekshiring



a) Men sonlarni bo‘lishni kasr ko‘rinishida ifodalashni bilaman.

b) Men kasrni o‘nli kasrga aylantirishni bilaman.

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Eslang



Kasrlarni qo‘shish va ayirish

1 $\frac{2}{3}$ va $\frac{1}{5}$ ni qo‘shing.

$$\frac{2}{3}+\frac{1}{5}=\frac{10}{15}+\frac{3}{15}$$

$$=\frac{13}{15}$$

3 va 5 ning dastlabki umumiy karralisi **15.**

$\frac{2}{3}=\frac{10}{15}$ ($\times 5$, $\times 5$) $\quad \frac{1}{5}=\frac{3}{15}$ ($\times 3$, $\times 3$)



2 $\frac{5}{6}$ dan $\frac{3}{4}$ ni ayiring.

$$\frac{5}{6}-\frac{3}{4}=\frac{10}{12}-\frac{9}{12}$$

$$=\frac{1}{12}$$

4 va 6 ning dastlabki umumiy karralisi **12.**

$\frac{5}{6}=\frac{10}{12}$ ($\times 2$, $\times 2$) $\quad \frac{3}{4}=\frac{9}{12}$ ($\times 3$, $\times 3$)



3 Idishda $\frac{1}{8}$ ℓ apelsin sharbati bor. Maftuna ichimlik tayyorlash uchun idishga $\frac{9}{10}$ ℓ suv quydi. Idishdagi ichimlik miqdorini aniqlang. Javobni aralash son ko‘rinishida ifodalang.

$$\frac{1}{8}+\frac{9}{10}=\frac{5}{40}+\frac{36}{40}$$

$$=\frac{41}{40}$$

$$=1\frac{1}{40}\ \ell$$

Idishdagi ichimlik miqdori $1\frac{1}{40}$ ℓ.

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4 Birinchi ustun uzunligi $\frac{3}{4}$ m ga teng va u ikkinchi ustundan $\frac{1}{5}$ m ga uzun bo‘lsa, ikkinchi ustun uzunligini toping.
Javobni oddiy kasr ko‘rinishida yozing.

$$\frac{3}{4} - \frac{1}{5} = \frac{15}{20} - \frac{4}{20}$$
$$= \frac{11}{20}$$

Ikkinchi ustun uzunligi $\frac{11}{20}$ m ga teng.

5 Dilnoza opa 1 kg kartoshka sotib oldi. U kartoshkalarning $\frac{2}{5}$ qismini taom tayyorlash uchun ishlatdi, $\frac{3}{10}$ qismini esa qo‘shnisiga berdi. Dilnoza opada qancha kartoshka qoldi?
Javobni oddiy kasr ko‘rinishida yozing.

$$1 - \frac{2}{5} = \frac{3}{5}$$
$$\frac{3}{5} - \frac{3}{10} = \frac{6}{10} - \frac{3}{10}$$
$$= \frac{3}{10}$$

Dilnoza opada $\frac{3}{10}$ kg kartoshka qolgan.

Mashq daftariga o‘ting **63–64**

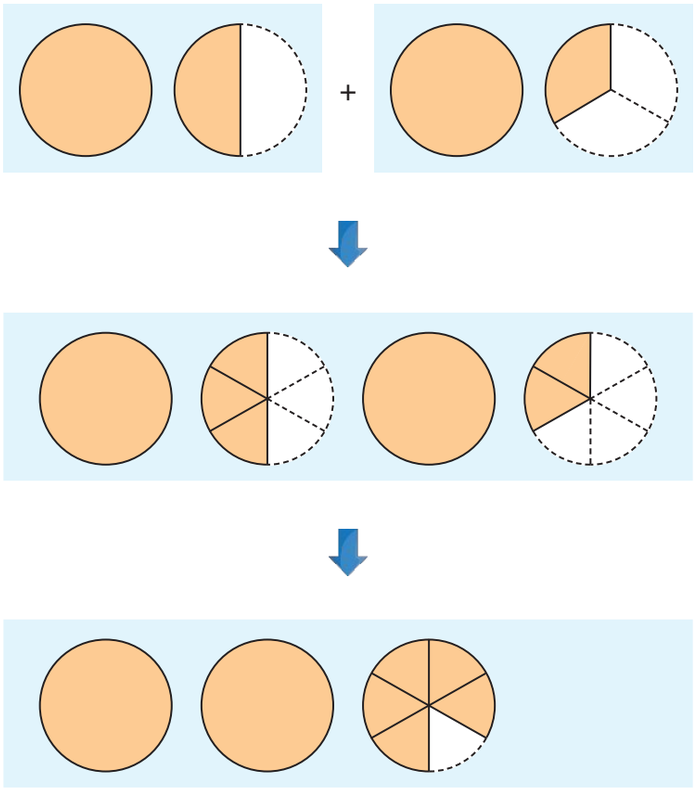
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Aralash sonlarni qo‘shish va ayirish

Qarang va o‘rganing



1 Akmalda $1\frac{1}{2}$ ta, Sardorda $1\frac{1}{3}$ ta pitsa bor. Ularda jami qancha pitsa borligini toping. Javobni aralash son ko‘rinishida yozing.



2 va 3 ning dastlabki umumiy karralisi **6.**

$\frac{1}{2} = \frac{3}{6}$ (×3)

$\frac{1}{3} = \frac{2}{6}$ (×2)



$$1\frac{1}{2} + 1\frac{1}{3} = 1\frac{3}{6} + 1\frac{2}{6}$$
$$= 2\frac{5}{6}$$

Akmal va Sardorda jami $2\frac{5}{6}$ ta pitsa bor.

Dastlab $\frac{1}{2}$ va $\frac{1}{3}$ ni umumiy maxraji 6 bo‘lgan kasrlarga almashtiring. So‘ng butun va kasr qismlarini qo‘shing.

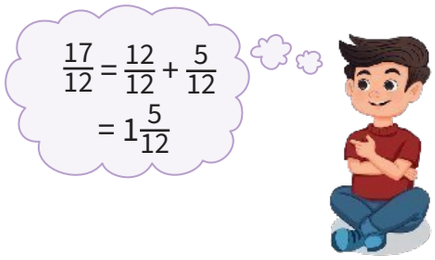


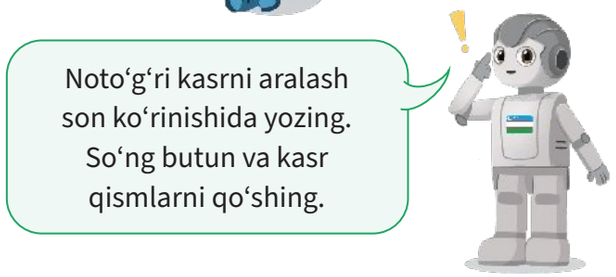
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2 Kamolada $1\frac{3}{4}$ ta, Donoda $1\frac{2}{3}$ ta tort bor. Ularda jami qancha tort bor? Javobni aralash son ko‘rinishida yozing.

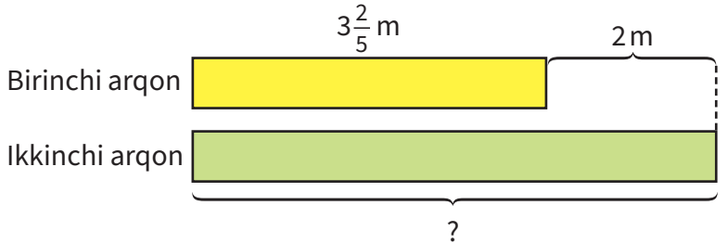
$$1\frac{3}{4}+1\frac{2}{3}=1\frac{9}{12}+1\frac{8}{12}$$
$$=2\frac{17}{12}$$
$$=2+1\frac{5}{12}$$
$$=3\frac{5}{12}$$

Kamola va Donoda jami $3\frac{5}{12}$ ta tort bor.



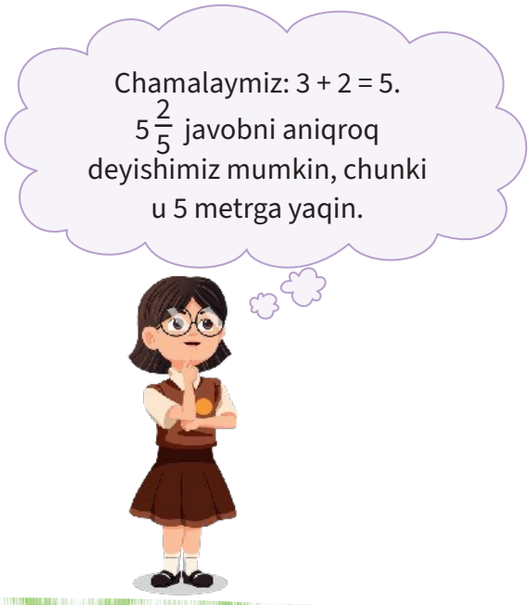


3 Birinchi arqonning uzunligi $3\frac{2}{5}$ m ga teng. Ikkinchi arqon undan 2 m uzun bo‘lsa, ikkinchi arqon uzunligini toping. Javobni aralash son ko‘rinishida yozing.



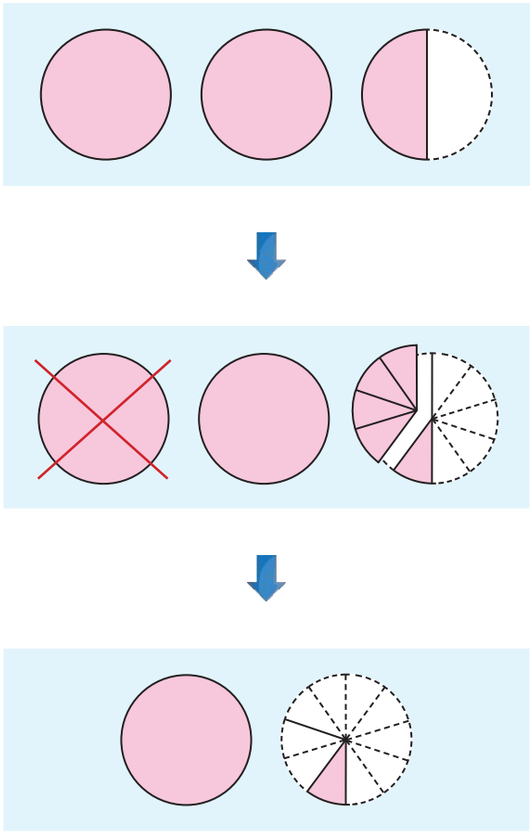
$$3\frac{2}{5}+2=5\frac{2}{5}$$

Ikkinchi arqon uzunligi $5\frac{2}{5}$ m ga teng.



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4 Lobar opaning $2\frac{1}{2}$ ta quymog‘i bor edi. U $1\frac{2}{5}$ ta quymoqni dugonasiga berdi. Unda qancha quymoq qoldi? Javobni aralash son ko‘rinishida yozing.

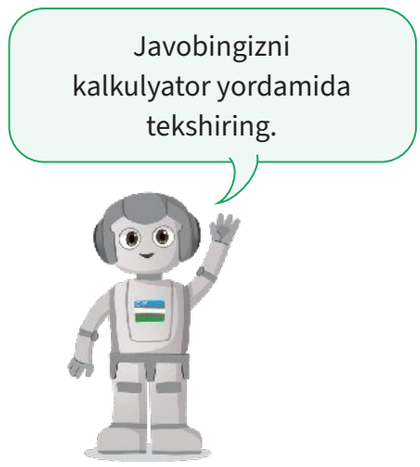




$$2\frac{1}{2} - 1\frac{2}{5} = 2\frac{5}{10} - 1\frac{4}{10}$$

$$= 1\frac{1}{10}$$

Lobar opada $1\frac{1}{10}$ ta quymoq qoldi.



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5 Dasturxonda $3\frac{1}{6}$ ta pitsa bor edi. Bolalar $1\frac{2}{3}$ ta pitsani yeyishdi. Dasturxonda qancha pitsa qoldi? Javobni aralash son ko‘rinishida yozing.

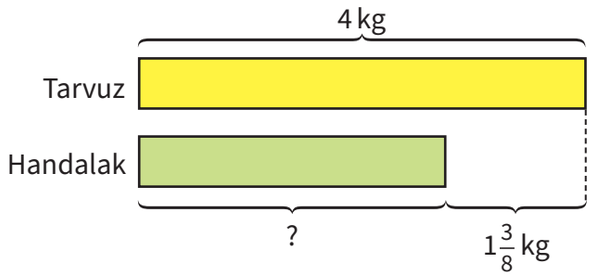
$$3\frac{1}{6} - 1\frac{2}{3} = 3\frac{1}{6} - 1\frac{4}{6}$$
$$= 2\frac{7}{6} - 1\frac{4}{6}$$
$$= 1\frac{3}{6}$$
$$= 1\frac{1}{2}$$

$3\frac{1}{6} = 2 + \frac{6}{6} + \frac{1}{6}$
$= 2\frac{7}{6}$



Dasturxonda $1\frac{1}{2}$ ta pitsa qoldi.

6 Tarvuzning massasi 4 kg. U handalakdan $1\frac{3}{8}$ kg og‘irroq bo‘lsa, handalakning massasi qancha? Javobni aralash son ko‘rinishida yozing.



$$4 - 1\frac{3}{8} = 3\frac{8}{8} - 1\frac{3}{8}$$
$$= 2\frac{5}{8}$$

Handalakning massasi $2\frac{5}{8}$ kg.

Chamalash: $4 - 1 = 3$.
$2\frac{5}{8}$ kg javobni to‘g‘ri deyish mumkin, chunki u 3 kg ga yaqin.

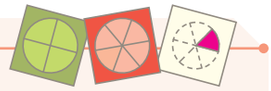


Tekshirish

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Qo‘lda bajariladigan mashq



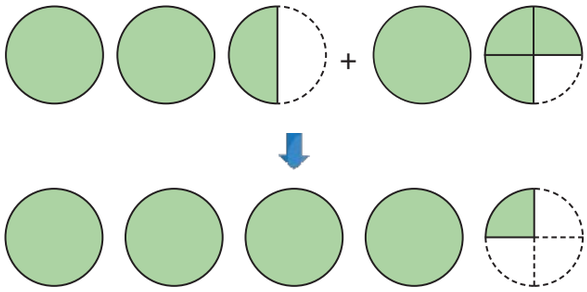


Guruh bo‘lib ishlang.
Aralash sonlarni qo‘shish va ayirish uchun kasrli doira bo‘laklaridan foydalaning.
Javobingizni kalkulyator yordamida tekshiring.

a) $1\frac{1}{2}$ va $1\frac{1}{4}$ b) $2\frac{1}{3}$ va $1\frac{1}{6}$ c) $3\frac{2}{3}$ va $1\frac{5}{9}$ d) $2\frac{4}{5}$ va $2\frac{7}{10}$

Misol

$2\frac{1}{2}+1\frac{3}{4}=?$

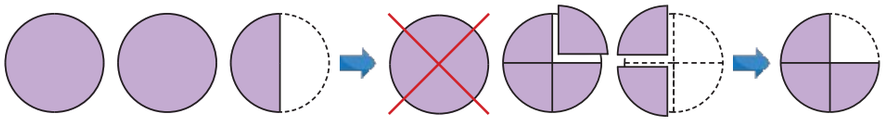


$2\frac{1}{2}+1\frac{3}{4}$
$=2\frac{2}{4}+1\frac{3}{4}$
$=3\frac{5}{4}$
$=4\frac{1}{4}$



Tekshirish $2\frac{1}{2}+1\frac{3}{4}=4\frac{1}{4}$

$2\frac{1}{2}-1\frac{3}{4}=?$



Tekshirish $2\frac{1}{2}-1\frac{3}{4}=\frac{3}{4}$

$2\frac{1}{2}-1\frac{3}{4}$
$=2\frac{2}{4}-1\frac{3}{4}$
$=1\frac{6}{4}-1\frac{3}{4}$
$=\frac{3}{4}$



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Bajaring va o‘rganing



1 Qo‘shing. Javoblarni aralash son ko‘rinishida yozing.

a) $3+2\frac{5}{6}$ b) $2\frac{2}{5}+4\frac{1}{4}$ c) $3\frac{2}{3}+2\frac{4}{5}$

2 Ayiring. Javoblarni oddiy kasr ko‘rinishida yozing.

a) $5-1\frac{1}{3}$ b) $7\frac{4}{12}-3\frac{1}{3}$ c) $6\frac{5}{12}-2\frac{8}{9}$

3 $\frac{5}{12}$ ga $2\frac{5}{6}$ va $1\frac{1}{4}$ ning ayirmasini qo‘shing.

4 Akmal A punktdan B punktgacha $2\frac{1}{5}$ km, B punktdan D punktgacha $3\frac{7}{8}$ km yugurdi.

a) Akmal jami qancha masofaga yugurgan?

b) B va D punktlar orasidagi masofa A va B punktlar orasidagi masofadan qancha uzun?

Javoblarni aralash son ko‘rinishida yozing.

5 Lobar opada $4\frac{3}{4}$ m mato bor edi. U matoning $2\frac{3}{8}$ m qismini parda tikish uchun ishlatdi. U yana $3\frac{1}{5}$ m mato sotib oldi. Lobar opada qancha mato bo‘ldi? Javobni aralash son ko‘rinishida yozing.

Mashq daftariga o‘ting 65–70

O‘zingizni tekshiring



a) Men aralash sonlarni kalkulyatordan foydalanib qo‘shishni bilaman.

b) Men aralash sonlarni kalkulyatordan foydalanib ayirishni bilaman.

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Eslang



To‘plamning qismi

1 Kamolada 12 ta marka bor. Ularning $\frac{3}{4}$ qismi – O‘zbekiston markalari.

a) Kamolada qancha O‘zbekiston markasi bor?

b) Markalarning qanchasi O‘zbekiston markasi emas?

Marka	Marka	Marka	Marka
Marka	Marka	Marka	Marka
Marka	Marka	Marka	Marka

12 ning $\frac{3}{4}$ qismi = ?

12 ta markani 4 ta teng bo‘lakka bo‘ling. Har bir bo‘lakdagi markalar sonini toping. So‘ng uchta bo‘lakdagi markalar sonini toping.



a) $12 \div 4 = 3$

Bitta bo‘lakda 3 ta marka bor.

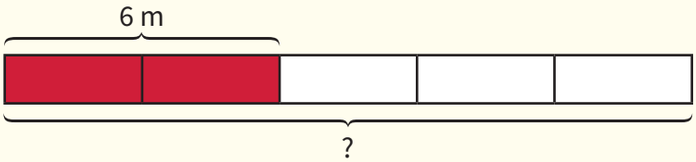
$3 \times 3 = 9$

9 ta O‘zbekiston markasi bor.

b) $12 - 9 = 3$

Markalarning 3 tasi O‘zbekiston markasi emas.

2 Tasmaning $\frac{2}{5}$ qismi qizil rangga bo‘yalgan. Agar bo‘yalgan qismining uzunligi 6 m bo‘lsa, tasmaning umumiy uzunligini toping.



2 bo‘lak = 6 m

1 bo‘lak = $6 \div 2$

= 3 m

5 bo‘lak = 5×3

= 15 m

Tasmaning uzunligi 15 m.

Mashq daftariga o‘ting 71–72

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To‘g‘ri kasrni natural songa ko‘paytirish

Qarang va o‘rganing



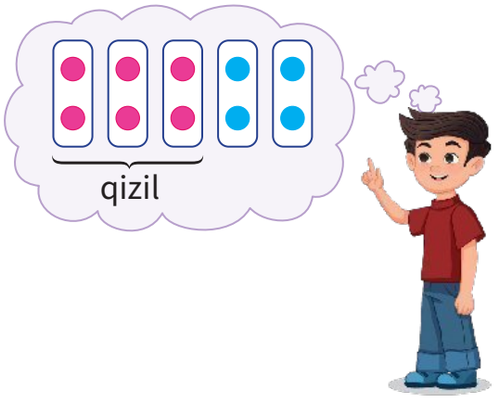
1 Jami 10 ta shar bor. Agar sharlarning $\frac{3}{5}$ qismi qizil bo‘lsa, nechta qizil shar bor?

1-usul

10 ning $\frac{3}{5}$ qismi = ?

5 bo‘lak = 10
1 bo‘lak = 10 ÷ 5
= 2

3 bo‘lak = 3 × 2
= 6



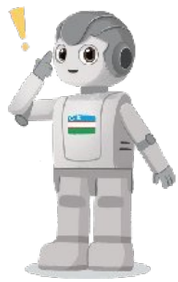
2-usul

10 ning $\frac{3}{5}$ qismi = $\overset{2}{\cancel{10}} \times \frac{3}{\cancel{5}_{1}}$
= 2 × 3
= 6

6 ta qizil shar bor.

Biz kasrni songa ko‘paytirishni “qisqartirish” orqali bajarishimiz ham mumkin.

$\overset{2}{\cancel{10}} \times \frac{3}{\cancel{5}_{1}} = 3 \times 2 = 6$

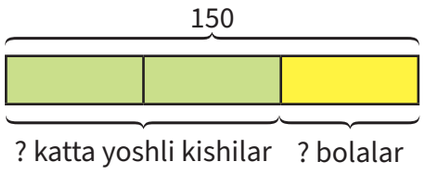


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2 Konsert zalida jami 150 nafar tomoshabin bor. Ularning $\frac{2}{3}$ qismi – katta yoshdagilar.

a) Konsert zalida necha nafar katta yoshli kishi bor?

b) Jami nechta bola bor?



a)

1-usul

150 ning $\frac{2}{3}$ qismi = ?

3 bo‘lak = 150

1 bo‘lak = 150 ÷ 3

= 50

2 bo‘lak = 2 × 50

= 100

2-usul

150 ning $\frac{2}{3}$ qismi = $\overset{50}{\cancel{150}} \times \frac{2}{\cancel{3}_{1}}$

= 100

Konsert zalida 100 nafar katta yoshli kishi bor.

b)

1-usul

150 – 100 = 50

2-usul

$1 - \frac{2}{3} = \frac{1}{3}$

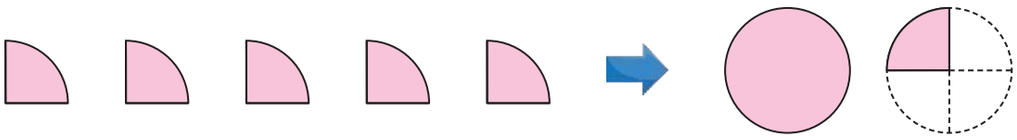
150 ning $\frac{1}{3}$ qismi = $\overset{50}{\cancel{150}} \times \frac{1}{\cancel{3}_{1}}$

= 50

Konsert zalida 50 nafar bola bor.

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3 5 nafar bola chorak bo‘lakdan tort yedi. Bolalar qancha tort yegan? Javobni aralash son ko‘rinishida yozing.



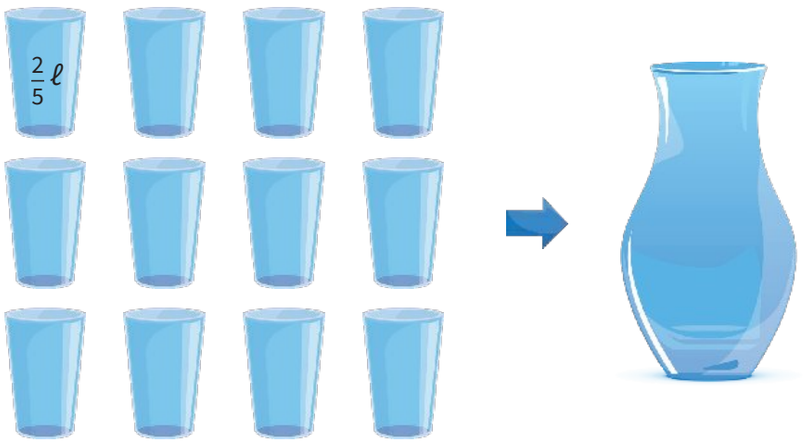
$\frac{1}{4} \times 5 = \frac{1 \times 5}{4}$

$= \frac{5}{4}$

$= 1\frac{1}{4}$

Bolalar $1\frac{1}{4}$ ta tort yegan.

4 12 ta stakanning har birida $\frac{2}{5}\ell$ dan suv bor. Hamma stakanlardagi suv bitta idishga quyildi. Idishga jami qancha suv quyildi? Javobni aralash son ko‘rinishida yozing.



$\frac{2}{5} \times 12 = \frac{2 \times 12}{5}$

$= \frac{24}{5}$

$= 4\frac{4}{5}$

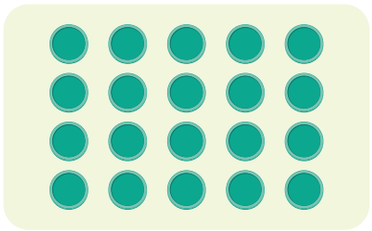
Idishga $4\frac{4}{5}\ell$ suv quyildi.

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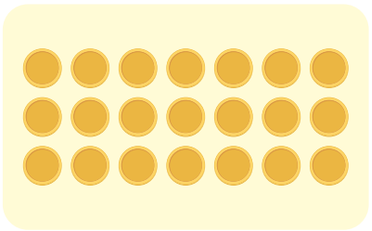
Juftlikda ishlang



a) Quyidagi sonlarning doirachalar bilan tasviriga asoslanib, $\frac{3}{4} \times 20$ va $\frac{5}{7} \times 21$ qanday hisoblanishini muhokama qiling.



20 ning $\frac{3}{4}$ qismi = ?



21 ning $\frac{5}{7}$ qismi = ?

b) $\frac{3}{4} \times 20$ va $\frac{5}{7} \times 21$ ning qiymatlarini toping.

Kasrlarni ko‘paytirishdan oldin “qisqartirish” usulining afzalliklarini muhokama qiling. Fikrlaringizni sherigingiz bilan o‘rtoqlashing.

Bajaring va o‘rganing



1 Qiymatini toping.

a) 20 ning $\frac{2}{5}$ qismi

b) $20 \times \frac{3}{10}$

2 Hisoblang va javobni aralash son ko‘rinishida ifodalang.

a) $\frac{3}{4} \times 7$

b) $9 \times \frac{3}{5}$

3 Kvadratning tomoni $\frac{5}{8}$ m ga teng bo‘lsa, uning perimetrini toping.

4 Lobar opada 120 ta tugma bor. Tugmalarning $\frac{2}{3}$ qismi qizil. Unda qancha qizil tugma bor?

5 Istirohat bog‘idagi dam oluvchilarning $\frac{3}{5}$ qismi – bolalar. Istirohat bog‘ida 480 nafar dam oluvchi bo‘lsa, ularning nechtasi katta yoshlilar?

6 Ichida 136 ℓ suv bo‘lgan idish teshilib, suv oqa boshladi. Teshik yopilgunga qadar suvning $\frac{1}{4}$ qismi oqib ketdi. Idishda qancha suv qolgan?

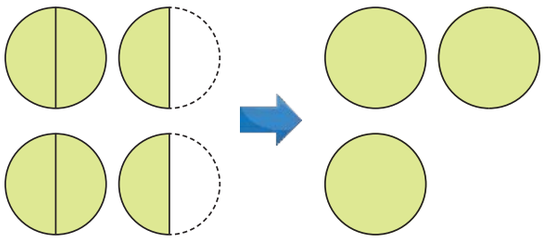
Mashq daftariga o‘ting 73–76

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 68 09/08/24 19:31

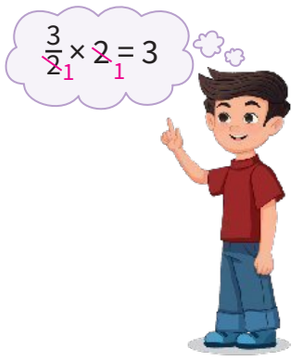
Noto‘g‘ri kasrni natural songa ko‘paytirish

Qarang va o‘rganing

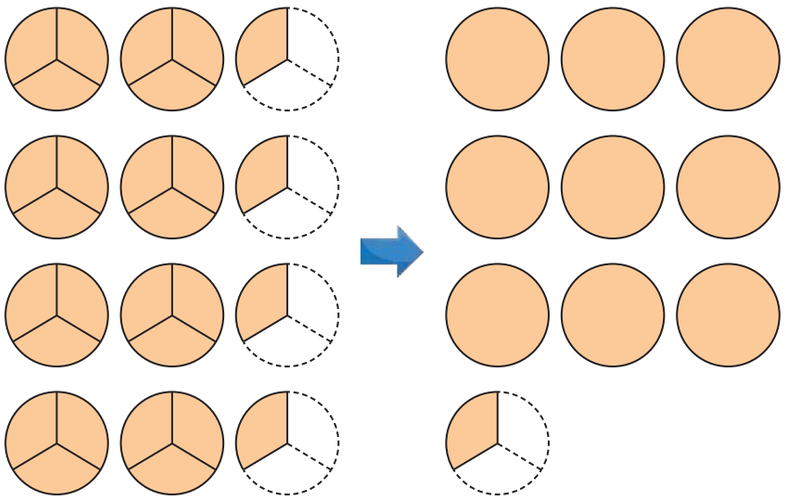
1 $\frac{3}{2} \times 2$ ning qiymatini toping.



$\frac{3}{2} \times 2 = 3$



2 4 va $\frac{7}{3}$ ning ko‘paytmasini toping.



$4 \times \frac{7}{3} = \frac{28}{3}$

$= 9\frac{1}{3}$

Bajaring va o‘rganing

Ko‘paytmani toping.

a) $\frac{5}{2}$ va 4

b) 8 va $\frac{6}{5}$

c) $\frac{7}{3}$ va 8

Mashq daftariga o‘ting **77–78**

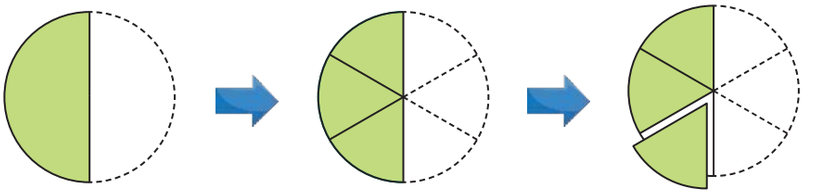
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 69 09/08/24 19:31

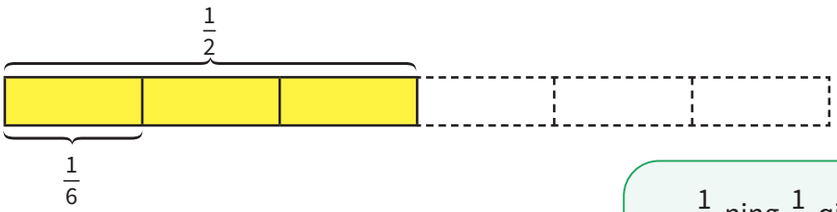
Ikkita to‘g‘ri kasrni ko‘paytirish

Qarang va o‘rganing



1 Kamolada $\frac{1}{2}$ ta pitsa bor edi. U pitsasining $\frac{1}{3}$ qismini dugonasiga berdi. Kamola dugonasiga qancha pitsa bergan?

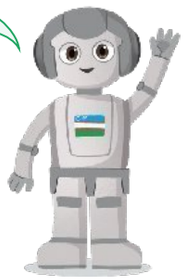




$\frac{1}{2}$ ning $\frac{1}{3}$ qismi $= \frac{1}{2} \times \frac{1}{3}$

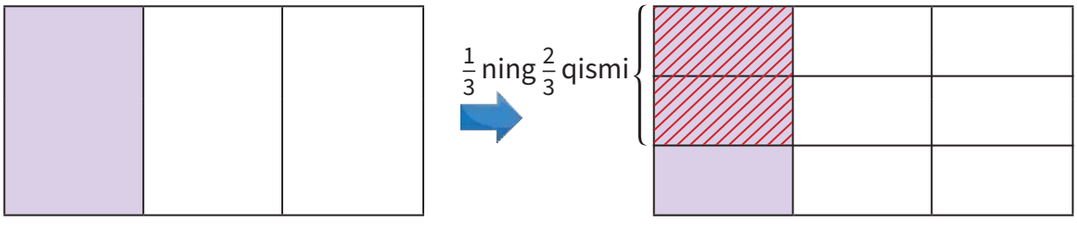
$= \frac{1}{6}$

$\frac{1}{2}$ ning $\frac{1}{3}$ qismini topish $\frac{1}{2}$ ni uchta teng qismga bo‘lish demakdir.



Kamola dugonasiga pitsaning $\frac{1}{6}$ qismini bergan.

2 Akmal to‘g‘ri to‘rtburchak shaklidagi qog‘ozni rasmda ko‘rsatilganidek uchga bukladi. U qog‘ozning $\frac{1}{3}$ qismini bo‘yadi va bo‘yalgan qog‘ozning $\frac{2}{3}$ qismini qizil rang bilan shtrixladi. Akmal qog‘ozning qancha qismini shtrixlagan?



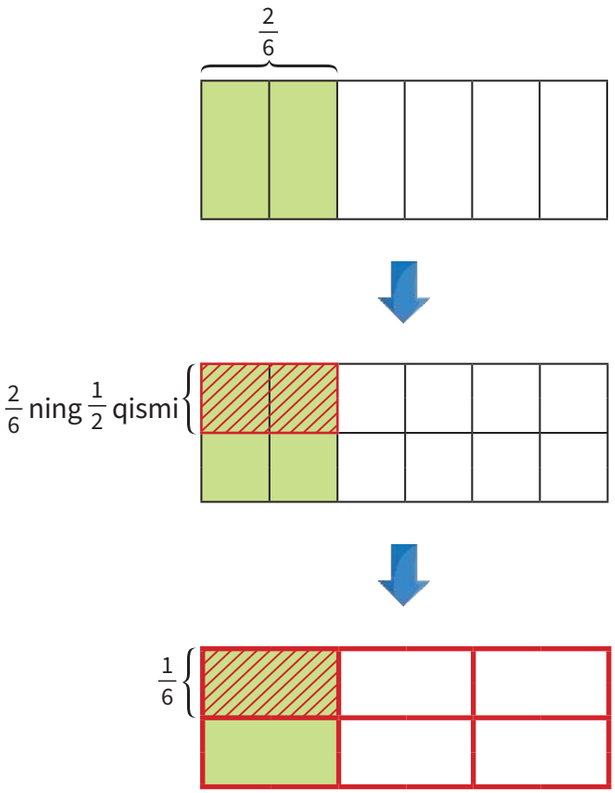
$\frac{1}{3}$ ning $\frac{2}{3}$ qismi $= \frac{1}{3} \times \frac{2}{3}$

$= \frac{2}{9}$

Akmal qog‘ozning $\frac{2}{9}$ qismini shtrixlagan.

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3 Madina to‘g‘ri to‘rtburchak shaklidagi qog‘ozni rasmda ko‘rsatilganidek 6 ga bukladi. U qog‘ozning $\frac{2}{6}$ qismini bo‘yadi va bo‘yalgan qog‘ozning $\frac{1}{2}$ qismini qizil rang bilan shtrixladi. Madina qog‘ozning qancha qismini shtrixlagan?







$$\frac{2}{6}\text{ ning }\frac{1}{2}\text{ qismi} = \frac{\cancel{2}^{1}}{6} \times \frac{1}{\cancel{2}_{1}}$$

$$= \frac{1}{6}$$

Madina qog‘ozning $\frac{1}{6}$ qismini shtrixlagan.

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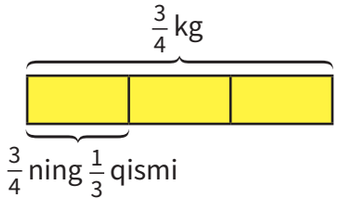
4 Lobar opada $\frac{3}{4}$ kg un bor edi. U unning $\frac{1}{3}$ qismini tort uchun ishlatdi.

a) U qancha un ishlatdi?

b) Lobar opada qancha un qoldi?

Javoblarni oddiy kasr ko‘rinishida ifodalang.

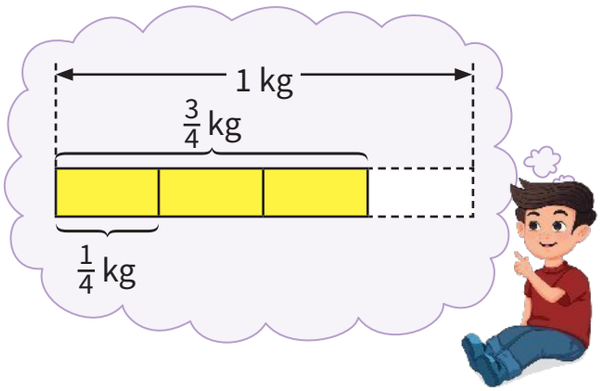
a)



$\frac{3}{4}$ ning $\frac{1}{3}$ qismi $= \frac{\cancel{3}^{1}}{4} \times \frac{1}{\cancel{3}_{1}}$

$= \frac{1}{4}$

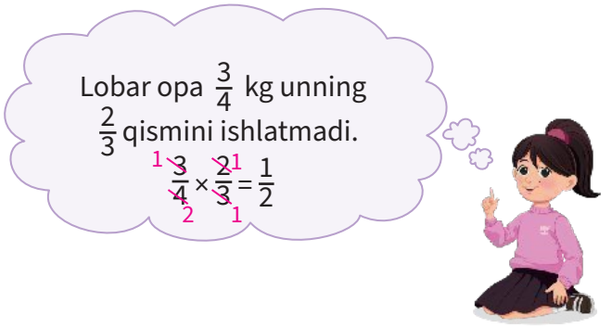
Lobar opa $\frac{1}{4}$ kg un ishlatdi.



b) $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$

$= \frac{1}{2}$

Lobar opada $\frac{1}{2}$ kg un qoldi.



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5 $\frac{1}{2} \times \frac{4}{5}$ ko‘paytmani toping.

1-usul

$$\frac{1}{2} \times \frac{4}{5} = \frac{1 \times 4}{2 \times 5}$$
$$= \frac{4}{10}$$
$$= \frac{2}{5}$$

2-usul

$$\frac{1}{2} \times \frac{4}{5} = \frac{1}{\cancel{2}_{1}} \times \frac{\cancel{4}^{2}}{5}$$
$$= \frac{2}{5}$$

Suratlarni ko‘paytiring. Maxrajlarni ko‘paytiring. Kasrni qisqarmas ko‘rinishga keltiring.



Dastlabki umumiy karralisiga bo‘lish orqali kasrni qisqarmas ko‘rinishga keltiring.



Juftlikda ishlang



Juftlikda muhokama qiling.

1 Kasrlarni ko‘paytirish jarayonini ko‘rsatish uchun to‘g‘ri to‘rtburchakni tegishli qismlarga bo‘ling va bo‘yang.

a) Shaklning $\frac{1}{3}$ qismining $\frac{1}{2}$ qismi

b) Shaklning $\frac{1}{3}$ qismining $\frac{3}{4}$ qismi

2 Quyidagi masalalarni qanday yechganingizni do‘stingizga tushuntiring. Javoblarni oddiy kasr ko‘rinishida yozing.

a) Idishda $\frac{3}{4}$ ℓ suv bor edi. Kamola suvning $\frac{3}{5}$ qismini choynakka quydi. Choynakka qancha suv quyilgan?

b) $\frac{4}{5}$ kg uzum bor edi. Zafar uzumning $\frac{3}{8}$ qismini yedi. Zafar necha kg uzum yegan?

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Bajaring va o‘rganing



1 Ko‘paytmani toping.

a) $\frac{2}{3} \times \frac{2}{5}$

b) $\frac{1}{3} \times \frac{3}{4}$

c) $\frac{4}{5} \times \frac{5}{6}$

d) $\frac{3}{7} \times \frac{3}{4}$

2 Ustunning uzunligi $\frac{8}{9}$ m. Dono uning $\frac{5}{6}$ qismini ko‘k rangga bo‘yadi. Ustunning necha metri ko‘k rangga bo‘yalgan? Javobni oddiy kasr ko‘rinishida yozing.

3 Tomoni $\frac{4}{5}$ m bo‘lgan kvadratning yuzini toping. Javobni kasr shaklida yozing.

4 Akmal kitob sotib olish uchun shaxsiy jamg‘armasining $\frac{3}{4}$ qismini sarfladi. Sarflangan pulning $\frac{1}{4}$ qismiga hikoyalar to‘plami sotib oldi. Akmal jamg‘armasining qancha qismini hikoyalar to‘plami sotib olishga sarfladi?

5 Kinoteatrdagi tomoshabinlarning $\frac{3}{8}$ qismi – katta yoshlilar, qolgan qismi – bolalar. Bolalarning $\frac{2}{3}$ qismi esa qizlardan iborat.

a) Tomoshabinlarning qancha qismi bolalar?

b) Tomoshabinlarning qancha qismi qiz bolalar?

c) Tomoshabinlarning qancha qismi o‘g‘il bolalar?

Javoblaringizni oddiy kasr ko‘rinishida yozing.

6 Ichimlik tayyorlash uchun $\frac{1}{5}$ ℓ olma sharbati va $\frac{3}{4}$ ℓ suv idishga solib aralashtirildi. Ichimlikning $\frac{1}{2}$ qismi boshqa idishga quyildi. Birinchi idishda qancha ichimlik qoldi?

Mashq daftariga o‘ting 79–80

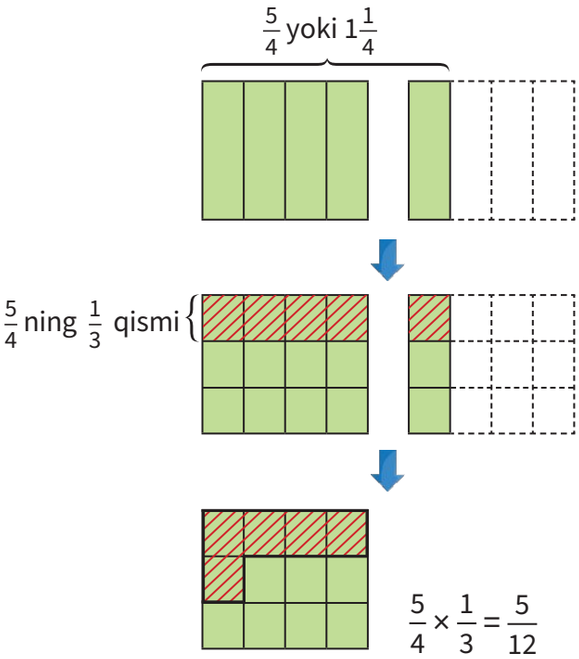
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 74 09/08/24 19:31

To‘g‘ri va noto‘g‘ri kasrlarni ko‘paytirish

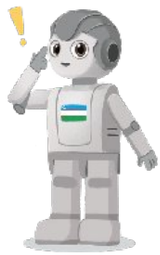
Qarang va o‘rganing



1 $\frac{5}{4} \times \frac{1}{3}$ ning qiymatini toping.



$\frac{5}{4}$ ning $\frac{1}{3}$ qismini topish uchun bir butunning $\frac{1}{3}$ qismini va $\frac{1}{4}$ ning $\frac{1}{3}$ qismini bo‘yang.



2 $\frac{3}{4}$ va $\frac{8}{7}$ ning ko‘paytmasini toping.

1-usul

$$\frac{3}{4} \times \frac{8}{7} = \frac{3 \times 8}{4 \times 7}$$
$$= \frac{24}{28}$$
$$= \frac{6}{7}$$

2-usul

$$\frac{3}{\cancel{4}_{1}} \times \frac{\cancel{8}^{2}}{7} = \frac{3 \times 2}{7}$$
$$= \frac{6}{7}$$

Bajaring va o‘rganing



Ko‘paytmani toping. Javoblarni oddiy kasr ko‘rinishida yozing.

a) $\frac{2}{5}$ va $\frac{9}{5}$

b) $\frac{5}{6}$ va $\frac{9}{5}$

c) $\frac{12}{5}$ va $\frac{2}{3}$

d) $\frac{15}{7}$ va $\frac{3}{5}$

Mashq daftariga o‘ting **81–82**

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Ikkita noto‘g‘ri kasrni ko‘paytirish

Qarang va o‘rganing



1 $\frac{6}{4}$ va $\frac{8}{3}$ ning ko‘paytmasini toping.

1-usul

$$\frac{6}{4}\times\frac{8}{3}=\frac{\cancel{6}^{2}}{\cancel{4}_{1}}\times\frac{\cancel{8}^{2}}{\cancel{3}_{1}}$$
$$=4$$

2-usul

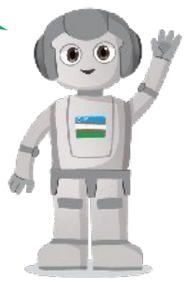
$$\frac{6}{4}\times\frac{8}{3}=\frac{6\times8}{4\times3}$$
$$=\frac{48}{12}$$
$$=4$$

Tekshirish

2 $\frac{5}{4}\times\frac{3}{2}$ ko‘paytmani toping.

$$\frac{5}{4}\times\frac{3}{2}=\frac{5\times3}{4\times2}$$
$$=\frac{15}{8}$$
$$=1\frac{7}{8}$$

$\frac{5}{4}\times\frac{3}{2}$ ko‘paytmaning qiymatini topish uchun 1-usuldan foydalana olamizmi?



Tekshirish

Juftlikda ishlang



Quyidagi kasrlarning ko‘paytmasini ikki xil usulda toping.

a) $\frac{9}{8}$ va $\frac{4}{3}$

b) $\frac{6}{5}$ va $\frac{10}{3}$

Qaysi usul qulayroq? Nima uchun?

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Qiziqarli matematika

O‘rganing va bo‘lishing



Guruh bo‘lib ishlang.
Quyidagi kasrlarning ko‘paytmasini kalkulyatordan foydalanib toping.

1-to‘plam	$\frac{2}{3} \times \frac{1}{5}$	$\frac{3}{8} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{2}{3}$
2-to‘plam	$\frac{1}{4} \times \frac{5}{2}$	$\frac{4}{5} \times \frac{5}{4}$	$\frac{24}{5} \times \frac{1}{2}$
3-to‘plam	$\frac{5}{4} \times \frac{6}{5}$	$\frac{7}{2} \times \frac{3}{2}$	$\frac{4}{4} \times \frac{3}{3}$

Qaysi to‘plam uchun quyidagi tasdiqlar to‘g‘ri?

- Ko‘paytmalar birdan kichik.
- Ko‘paytmalar ko‘paytuvchilardan kichik.
- Ko‘paytmalar ichida birdan kichik, birga teng va birdan kattasi bor.
- Ko‘paytmalarning hech biri birdan kichik emas.

Fikrlaringizni guruhdoshlaringiz bilan o‘rtoqlashing.

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Qiziqarli matematika

O‘ynang va o‘rganing



Uch kishi bo‘lib o‘ynang.
1-o‘yinchi istalgan bitta to‘plamdagi savollarga javob beradi.
2-o‘yinchi ayni vaqtda javoblarni kalkulyatordan foydalanib tekshiradi.

Kim javoblarni tezroq topyapti?
3-o‘yinchi vaqtga qarab turadi.

Har bir to‘plamning javoblari topilganidan keyin rollar almashiladi.

1-to‘plam	$\frac{2}{5} \times \frac{10}{3} =$	$\frac{12}{5} \times \frac{3}{4} =$	$\frac{18}{7} \times \frac{21}{4} =$
2-to‘plam	$\frac{9}{8} \times \frac{2}{3} =$	$\frac{15}{4} \times \frac{7}{3} =$	$\frac{17}{6} \times \frac{2}{9} =$
3-to‘plam	$\frac{14}{9} \times \frac{5}{3} =$	$\frac{20}{7} \times \frac{3}{4} =$	$\frac{16}{5} \times \frac{3}{8} =$

Javoblarning qaysi birini kalkulyatorsiz topish osonroq?

Bajaring va o‘rganing



Ko‘paytiring.

a) $\frac{8}{5} \times \frac{5}{4}$

b) $\frac{9}{3} \times \frac{10}{3}$

c) $\frac{13}{6} \times \frac{8}{3}$

d) $\frac{8}{3} \times \frac{12}{7}$

Mashq daftariga o‘ting 83–84

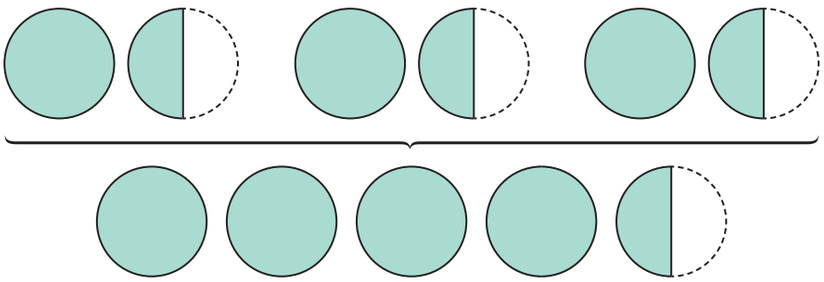
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Aralash sonlarni natural songa ko‘paytirish

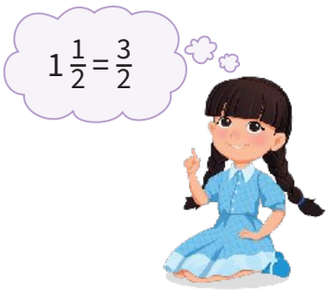
Qarang va o‘rganing



1 3 nafar bolaning har biri $1\frac{1}{2}$ tadan pirog sotib oldi. Ular jami qancha pirog sotib oldi? Javobni aralash kasr ko‘rinishida yozing.



$$1\frac{1}{2} \times 3 = \frac{3}{2} \times 3$$
$$= \frac{9}{2}$$
$$= 4\frac{1}{2}$$

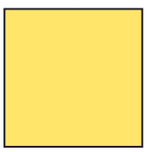


Bolalar jami $4\frac{1}{2}$ ta pirog sotib oldi.

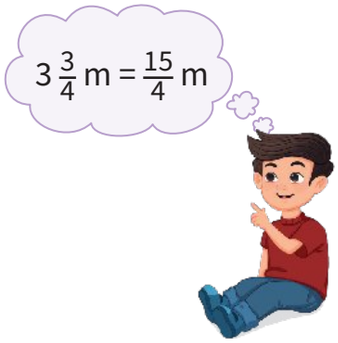
Tekshirish

2 Tomoni $3\frac{3}{4}$ m bo‘lgan kvadratning perimetrini toping.

$3\frac{3}{4}$ m



$$3\frac{3}{4} \times 4 = \frac{15}{\cancel{4}_{1}} \times \cancel{4}^{1}$$
$$= 15$$



Kvadratning perimetri 15 m.

Tekshirish

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3 O‘simliklarni sug‘orish uchun har kuni $2\frac{5}{8}$ ℓ suv ishlatiladi. 7 kunda sug‘orish uchun qancha suv ishlatiladi?

$$7 \times 2\frac{5}{8} = 7 \times \frac{21}{8}$$
$$= \frac{7 \times 21}{8}$$
$$= \frac{147}{8}$$
$$= 18\frac{3}{8}$$



Chamalaymiz:
$2 \times 7 = 14$
$3 \times 7 = 21$
$18\frac{3}{8}$ ℓ javobni to‘g‘ri deyish mumkin, chunki u 14 ℓ va 21 ℓ oralig‘ida.
Javobingizni tekshirish uchun kalkulyatordan foydalaning.



7 kun davomida o‘simliklarni sug‘orish uchun $18\frac{3}{8}$ ℓ suv ishlatiladi.

Juftlikda ishlang



Ko‘paytiring. Sherigingizning javobini tekshirish uchun boshqa usuldan foydalaning.

a) $6 \times 5\frac{1}{4}$ b) $2\frac{1}{3} \times 8$ c) $10 \times 8\frac{4}{5}$ d) $6\frac{4}{9} \times 12$

Qiziqarli matematika

O‘rganing va bo‘lishing



Guruh bo‘lib ishlang.
Ko‘paytmalar qanday hisoblanishini guruhdoshlaringiz bilan o‘rtoqlashing.

a) $5\frac{1}{3} \times 6$ b) $4\frac{2}{5} \times 10$

Misol

$2\frac{1}{2} \times 4$ ning qiymatini toping.

1-qadam Aralash sonni butun va kasr qismlarga ajrating.

$2\frac{1}{2} = \mathbf{2}$ va $\mathbf{\frac{1}{2}}$

2-qadam Har birini 4 ga ko‘paytiring.

$2 \times 4 = \mathbf{8}$ $\frac{1}{2} \times 4 = \mathbf{2}$

3-qadam Topilgan ko‘paytmalarni qo‘shing.

$8 + 2 = \mathbf{10}$ $2\frac{1}{2} \times 4 = \mathbf{10}$

Endi $2\frac{1}{2} \times 4$ ning qiymatini topish uchun kalkulyatordan foydalaning.



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Bajaring va o‘rganing



Ifodalarning qiymatini toping va javobning to‘g‘ri ekanini tekshiring.

1 Ko‘paytiring.

a) $3 \times 4\frac{2}{9}$

b) $20 \times 5\frac{3}{5}$

c) $9 \times 7\frac{5}{6}$

d) $1\frac{1}{4} \times 24$

2 Tomoni $5\frac{1}{5}$ m bo‘lgan kvadratning perimetrini toping.
Javobni kasr ko‘rinishida ifodalang.

3 Agar bitta g‘ishtning massasi $2\frac{4}{9}$ kg bo‘lsa, 6 ta g‘ishtning massasi qancha bo‘ladi?
Javobni aralash son ko‘rinishida ifodalang.

4 Idishning sig‘imi $1\frac{1}{2}$ ℓ. Shunday idishlarning 15 tasiga qancha suv sig‘adi?
Javobni kasr ko‘rinishida ifodalang.

5 To‘g‘ri to‘rtburchak shaklidagi yer maydonining o‘lchami: $4\frac{2}{5}$ m va 8 m. Yer maydonining yuzini toping. Javobni aralash son ko‘rinishida ifodalang.

6 1 kg shirinlik narxi 60 000 so‘m. $3\frac{1}{2}$ kg shirinlikning narxi qancha?

O‘zingizni tekshiring



Mashq daftariga o‘ting 85–88

a) Men to‘g‘ri kasrni natural songa ko‘paytirishni bilaman.

b) Men noto‘g‘ri kasrni natural songa ko‘paytirishni bilaman.

c) Men ikkita to‘g‘ri kasrning ko‘paytmasini topa olaman.

d) Men to‘g‘ri kasrni noto‘g‘ri kasrga ko‘paytira olaman.

e) Men ikkita noto‘g‘ri kasrning ko‘paytmasini topa olaman.

f) Men aralash sonni natural songa ko‘paytira olaman.

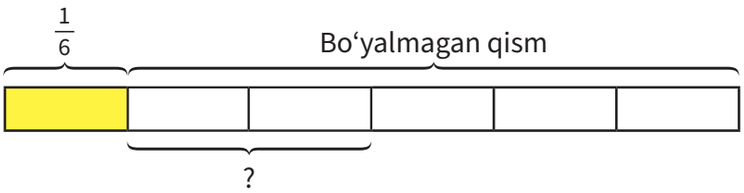
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 81 09/08/24 19:31

Qolgan qismning qismi

Qarang va o‘rganing



1 Tasmaning $\frac{1}{6}$ qismi sariq rangga bo‘yalgan. Tasmaning bo‘yalmagan qismining $\frac{2}{5}$ qismini toping. Javobni oddiy kasr ko‘rinishida ifodalang.



$1 - \frac{1}{6} = \frac{5}{6}$

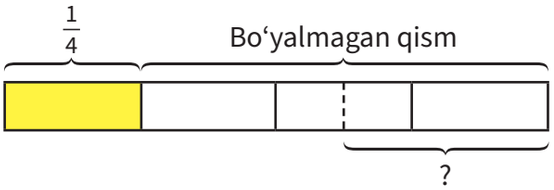
Bo‘yalmagan qism tasmaning $\frac{5}{6}$ qismiga teng.



Bo‘yalmagan qismning $\frac{2}{5}$ qismi $= \frac{\overset{1}{\cancel{5}}}{\underset{3}{\cancel{6}}} \times \frac{\overset{1}{\cancel{2}}}{\underset{1}{\cancel{5}}}$

$= \frac{1}{3}$

2 Tasmaning $\frac{1}{4}$ qismi bo‘yalgan bo‘lsa, bo‘yalmagan qismining $\frac{1}{2}$ qismini toping. Javobni kasr ko‘rinishida ifodalang.



$1 - \frac{1}{4} = \frac{3}{4}$

Bo‘yalmagan qism tasmaning $\frac{3}{4}$ qismiga teng.

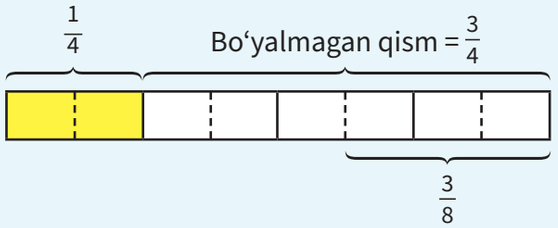


Tasmaning bo‘yalmagan qismining $\frac{1}{2}$ qismi

$= \frac{3}{4} \times \frac{1}{2}$

$= \frac{3}{8}$

Tekshirish



Tasmaning bo‘yalmagan qismining $\frac{1}{2}$ qismi $\frac{3}{8}$ ga teng.

Mashq daftariga o‘ting 89–90

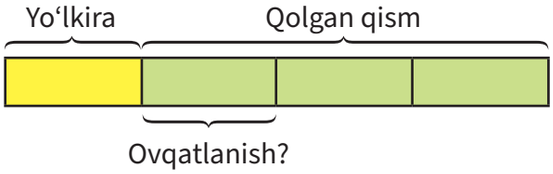
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Matnli masalalar

Qarang va o‘rganing



1 Jahongir pulining $\frac{1}{4}$ qismini yo‘lkiraga, qolgan pulining $\frac{1}{3}$ qismini ovqatlanishga sarfladi. U ovqatlanishga jami pulining qancha qismini sarflagan?



Chizma-modelda qolgan qismning $\frac{1}{3}$ qismi butunning $\frac{1}{4}$ qismiga teng.

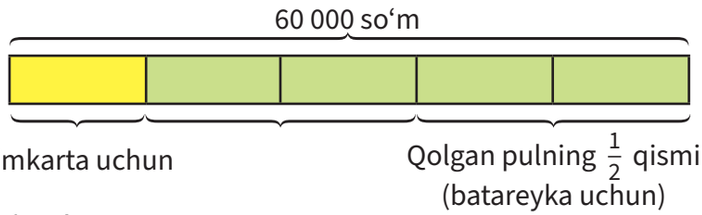


$1 - \frac{1}{4} = \frac{3}{4}$ (qolgan qism)

$\frac{3}{4}$ ning $\frac{1}{3}$ qismi $= \frac{\cancel{3}^{1}}{4} \times \frac{1}{\cancel{3}_{1}} = \frac{1}{4}$

U jami pulining $\frac{1}{4}$ qismini ovqatlanishga sarflagan.

2 Sardorning jami 60 000 so‘m puli bor edi. U pulining $\frac{1}{5}$ qismini simkarta xarid qilishga, qolgan pulining $\frac{1}{2}$ qismini esa batareyka sotib olishga sarfladi. Sardorda qancha pul qoldi?



$1 - \frac{1}{5} = \frac{4}{5}$ (qolgan qism)

$\frac{4}{5}$ ning $\frac{1}{2}$ qismi $= \frac{\cancel{4}^{2}}{5} \times \frac{1}{\cancel{2}_{1}}$

$= \frac{2}{5}$ (batareyka)

Chizmadan pulning $\frac{2}{5}$ qismi qolgani ko‘rinadi.



$\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$ (qolgan)

$\frac{2}{5} \times 60\,000 \text{ so‘m} = \frac{2}{\cancel{5}_{1}} \times \cancel{60}^{12}\,000 \text{ so‘m} = 24\,000 \text{ so‘m}$

Unda 24 000 so‘m qolgan.

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3 5-sinfda 480 nafar o‘quvchi ta’lim oladi.

Ularning $\frac{3}{5}$ qismi qizlar.

O‘g‘il bolalarning $\frac{1}{4}$ qismi ko‘zoynak taqadi.

a) Nechta o‘g‘il bola ko‘zoynak taqadi?

b) Nechta o‘g‘il bola ko‘zoynak taqmaydi?

Chizma-model masalani tushunish va yechishga yordam beradimi?



a) $1 - \frac{3}{5} = \frac{2}{5}$

O‘quvchilarning $\frac{2}{5}$ qismi o‘g‘il bolalar.

1-usul

$\frac{2}{5}$ ning $\frac{1}{4}$ qismi $= \frac{\overset{1}{\cancel{2}}}{5} \times \frac{1}{\underset{2}{\cancel{4}}}$

$= \frac{1}{10}$

O‘quvchilarning $\frac{1}{10}$ qismi – ko‘zoynak taqadigan o‘g‘il bolalar.

$\frac{1}{10} \times 480 = 48$

2-usul

$\frac{2}{5} \times 480 = 192$

Jami 192 nafar o‘g‘il bola bor.

$\frac{1}{4} \times 192 = 48$

48 nafar o‘g‘il bola ko‘zoynak taqadi.

b)

1-usul

$1 - \frac{1}{4} = \frac{3}{4}$

O‘g‘il bolalarning $\frac{3}{4}$ qismi ko‘zoynak taqmaydi.

$\frac{2}{5}$ ning $\frac{3}{4}$ qismi $= \frac{\overset{1}{\cancel{2}}}{5} \times \frac{3}{\underset{2}{\cancel{4}}}$

$= \frac{3}{10}$

O‘quvchilarning $\frac{3}{10}$ qismi – ko‘zoynak taqmaydigan o‘g‘il bolalar.

$\frac{3}{10} \times 480 = 144$

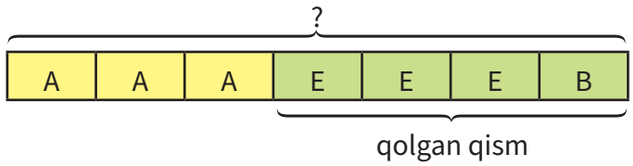
2-usul

$192 - 48 = 144$

144 nafar o‘g‘il bola ko‘zoynak taqmaydi.

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4 Konsert zalidagi tomoshabinlarning $\frac{3}{7}$ qismini ayollar, qolganlarning $\frac{3}{4}$ qismini erkaklar va erkaklar sonidan 42 nafar kam bo‘lgan bolalar tashkil etadi. Konsert zalida jami nechta tomoshabin bor?



3 bo‘lak – 1 bo‘lak = 2 bo‘lak
2 bo‘lak = 42
1 bo‘lak = 42 ÷ 2 = 21

Konsert zalida jami 21 nafar bola bor.

7 bo‘lak = 7 × 21
= 147

Konsert zalida jami 147 nafar tomoshabin bor.

5 Maktabda 1701 nafar o‘quvchi bo‘lib, ularning $\frac{3}{7}$ qismini o‘g‘il bolalar tashkil qiladi. Agar o‘g‘il bolalar soni o‘qituvchilardan 9 marta ko‘p bo‘lsa, maktabda nechta o‘qituvchi bor?

$\frac{3}{7} \times 1701 = 729$

729 nafar o‘g‘il bola bor.

729 ÷ 9 = 81

81 nafar o‘qituvchi bor.

6 Qutida qizil, ko‘k, yashil va oq tugmalar bor. Tugmalarning $\frac{1}{4}$ qismi qizil, $\frac{1}{3}$ qismi ko‘k, qolganining $\frac{1}{5}$ qismi yashil.

a) Tugmalarning qancha qismi yashil rangda?

b) Oq tugmalar yashil tugmalardan 36 ta ko‘p bo‘lsa, jami nechta tugma bor?

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a) $1 - \frac{1}{4} - \frac{1}{3} = \frac{12}{12} - \frac{3}{12} - \frac{4}{12} = \frac{5}{12}$

$\frac{1}{5} \times \frac{5}{12} = \frac{1}{12}$

Tugmalarning $\frac{1}{12}$ qismi yashil rangda.

b) $1 - \frac{7}{12} - \frac{1}{12} = \frac{4}{12}$

1-usul

Tugmalarning $\frac{4}{12}$ qismi oq.

$\frac{4}{12} - \frac{1}{12} = \frac{3}{12}$

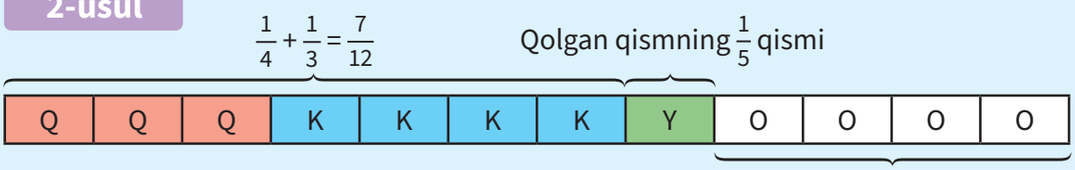
Tugmalarning $\frac{3}{12}$ qismi → 36

Tugmalarning $\frac{1}{12}$ qismi → $36 \div 3 = 12$

Tugmalarning $\frac{12}{12}$ qismi → $12 \times 12 = 144$

Jami 144 ta tugma bor.

2-usul



4 bo‘lak – 1 bo‘lak = 3 bo‘lak

3 bo‘lak = 36

1 bo‘lak = $36 \div 3$

= 12

12 bo‘lak = 12×12

= 144

Jami 144 ta tugma bor.

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Bajaring va o‘rganing



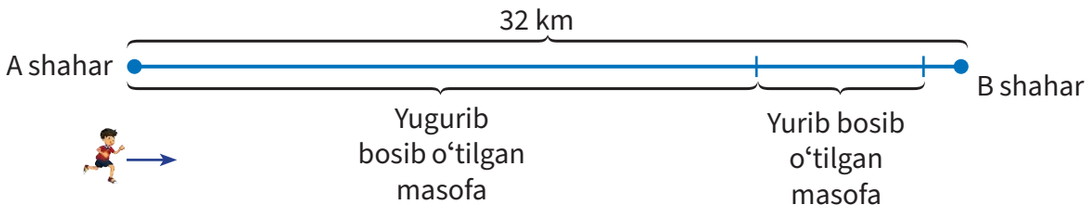
Matnli masalalarni yeching.

1 Akmal 18 000 so‘mga hamyon sotib oldi. Bu unda bo‘lgan pulning $\frac{3}{10}$ qismini tashkil qildi. Akmalda dastlab qancha pul bo‘lgan?

2 Laziza opada 270 ta nok bor edi. Laziza opa ularning $\frac{4}{9}$ qismini qutilarga joyladi va qolgan noklarning $\frac{2}{5}$ qismini do‘stlariga ulashdi. U do‘stlariga qancha nok ulashgan?

3 Madina pulining $\frac{5}{12}$ qismini tufli, qolgan pulning $\frac{2}{7}$ qismini shippak sotib olishga sarfladi. Shippak narxi 20 000 so‘m bo‘lsa, tuflining narxini toping.

4 A va B shahar o‘rtasidagi masofa 32 km. Jamshid A shahardan B shahargacha masofaning $\frac{3}{4}$ qismini yugurib, qolgan masofaning $\frac{4}{5}$ qismini yurib bosib o‘tdi. So‘ng dam olgani to‘xtadi. U dam olish uchun to‘xtagan nuqta B shahardan qancha uzoqlikda? Javobni aralash son ko‘rinishida yozing.



5 Jasur akadagi to‘rtta bankaning har birida $1\frac{1}{2}$ ℓ meva sharbati bor edi. Jasur aka hamma sharbatni 1 litrlik idishlarga to‘ldirib quydi va ularning har birini 9000 so‘mdan sotdi. Jasur aka sharbatni jami qancha pulga sotgan?

6 Ichimlik tayyorlash uchun $\frac{1}{2}$ ℓ apelsin sharbatiga $\frac{3}{4}$ ℓ suv aralashtirildi. Agar ichimlikning $\frac{1}{5}$ qismi ichilgan bo‘lsa, qanchasi qoldi?

O‘zingizni tekshiring



Mashq daftariga o‘ting **91–96**

Men kasrlarni qo‘shish, ayirish va ko‘paytirish amallariga doir masalalarni yechishni bilaman.

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O‘ylab ko‘ring



Sinfda 40 nafar o‘quvchi bo‘lib, ularning $\frac{2}{5}$ qismini qizlar tashkil etadi. Agar o‘g‘il bolalarning $\frac{1}{2}$ qismi va qizlarning $\frac{3}{8}$ qismi suzishni bilsa, quyidagilarni toping:

a) O‘quvchilarning qancha qismi suzishni biladi?

b) O‘quvchilarning nechtasi suzishni bilmaydi?

Mashq daftariga o‘ting **97–100**

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4 Uchburchakning yuzi

Muhokama qiling



Bolalar dam olishda

Bu chodirning balandligi qancha?

Menimcha, varragimning yuzi eng katta.

Varragimning yuzi Madinadagi varrak yuzidan kattaroqmikan?

Eslang



Kvadrat va to‘g‘ri to‘rtburchak

1 ABCD – to‘g‘ri to‘rtburchak.
AD va BC — to‘g‘ri to‘rtburchakning bo‘yi.
AB va DC — to‘g‘ri to‘rtburchakning eni.

AB va BC tomonlar o‘zaro perpendikulyar (AB ⊥ BC). Yana boshqa o‘zaro perpendikulyar kesmalarni ayta olasizmi?

Ikkita to‘g‘ri chiziq to‘g‘ri burchak ostida kesishsa, ular o‘zaro perpendikulyar bo‘ladi.



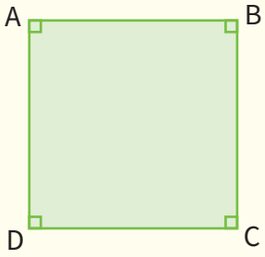


To‘g‘ri to‘rtburchakning yuzi = bo‘yi × eni

2 ABCD – kvadrat.

AB, BC, CD va AD — kvadratning tomonlari.
AB va BC tomonlar o‘zaro perpendikulyar (AB ⊥ BC).

Yana boshqa o‘zaro perpendikulyar kesmalarni ayta olasizmi?



Shu sahifadagi to‘g‘ri to‘rtburchak yoki kvadratda AC kesma o‘tkazsangiz, qanday shakllar hosil bo‘ladi?



Kvadratning yuzi = tomoni × tomoni

Mashq daftariga o‘ting **115–116**

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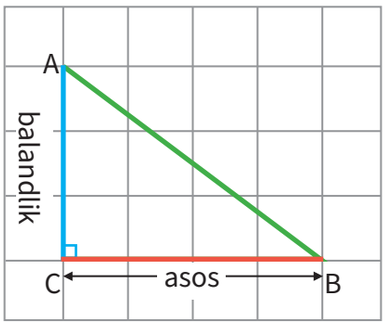
Uchburchakning asosi va balandligi

Qarang va o‘rganing



1 ABC uchburchakning 3 ta tomoni va 3 ta burchagi bor.

a) ABC uchburchakda BC uning **asosi,** AC uning **balandligi** hisoblanadi.

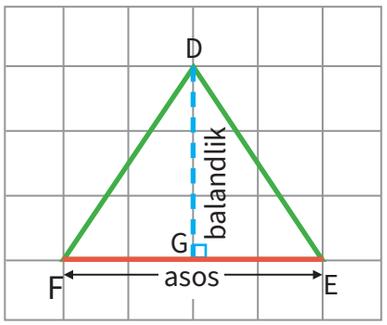


$AC \perp BC$

AB, AC va BC – ABC uchburchakning tomonlari.

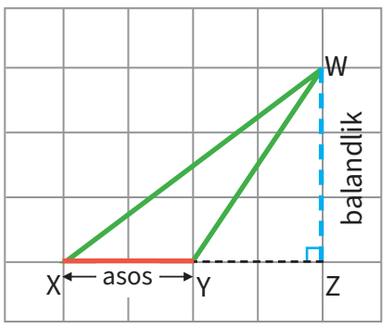


b) DEF uchburchakda EF uning **asosi,** DG uning **balandligi** hisoblanadi.



$DG \perp EF$

c) WXY uchburchakda XY uning **asosi,** WZ uning **balandligi** hisoblanadi.



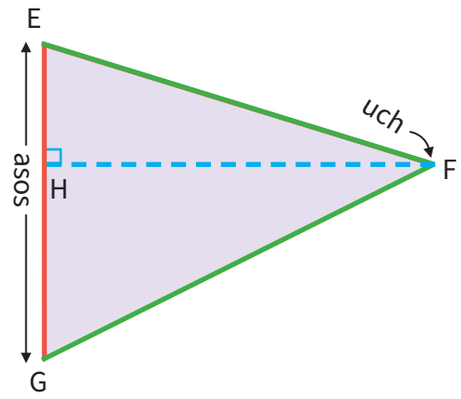
$WZ \perp XY$

Uchburchakning **balandligi** uning **asosiga** perpendikulyar bo‘ladi.

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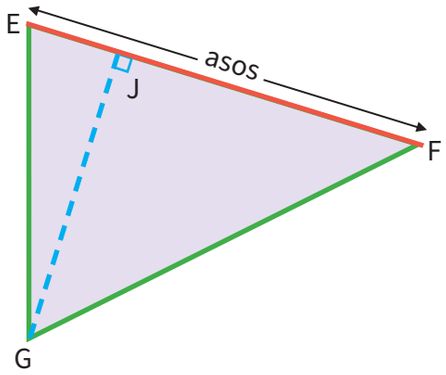
2 EFG uchburchakda berilgan asosga tushirilgan balandlikni toping.

a)



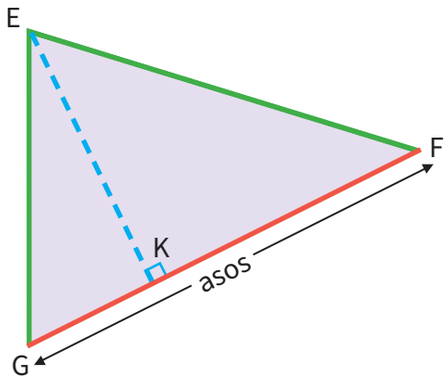
EG — uchburchak asosi.
FH — uchburchak balandligi, chunki FH ⊥ EG.
F — uchburchakning asosi qarshisidagi uchi.

b)



EF — uchburchak asosi.
GJ — uchburchak balandligi, chunki GJ ⊥ EF.
G — uchburchakning asosi qarshisidagi uchi.

c)



FG uchburchakning asosi bo‘lsa, uchburchakning balandligini topa olasizmi?



Uchburchakning **asosi** uning uchta tomonidan istalgan biri bo‘lishi mumkin. O‘tkir burchakli uchburchakning **balandligi** uning **asosi qarshisidagi uchidan** tushirilgan **perpendikulyar kesma uzunligiga** teng.

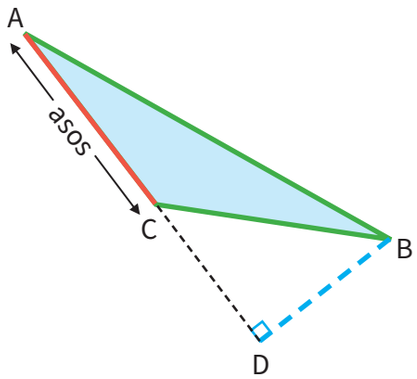
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Juftlikda ishlang

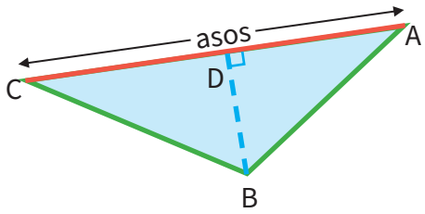


1 Berilgan ABC uchburchakda AC asos bo‘lsa, BD kesma balandlik bo‘ladimi? Javobingizni tushuntiring.

a)

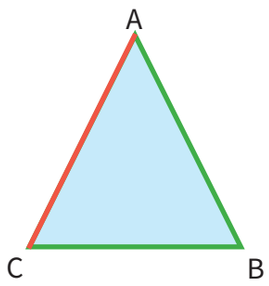


b)



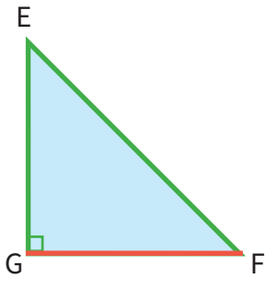
2 Uchburchakning asosi berilgan. To‘g‘ri burchakli chizg‘ichdan foydalanib uchburchaklarning balandligini aniqlang.

a)



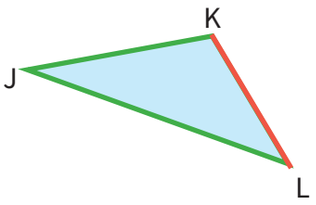
AC – asos.

b)



FG – asos.

c)



KL – asos.

3 Navbat bilan katakli qog‘ozga turli o‘lchamdagi uchburchaklarni chizing. Sherigingizdan berilgan asosga ko‘ra uchburchaklarning balandligini aniqlashni so‘rang. Zarur holatlarda to‘g‘ri burchakli chizg‘ichdan foydalaning.

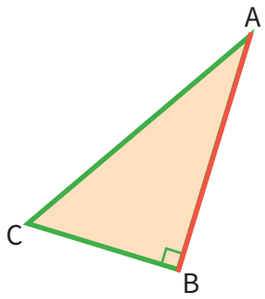
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 93 09/08/24 19:31

Bajaring va o‘rganing



1 Berilgan asosga ko‘ra uchburchakning balandligini aniqlang.

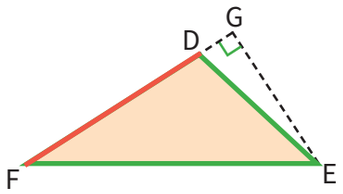
a)



ABC uchburchakda AB – asos,

_____ – balandlik.

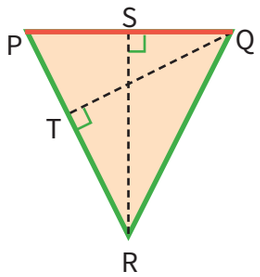
b)



DEF uchburchakda DF – asos,

_____ – balandlik.

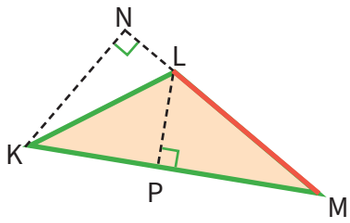
c)



PQR uchburchakda PQ – asos,

_____ – balandlik.

d)



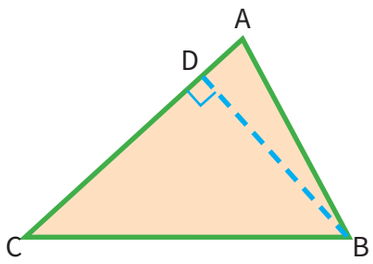
KLM uchburchakda LM – asos,

_____ – balandlik.

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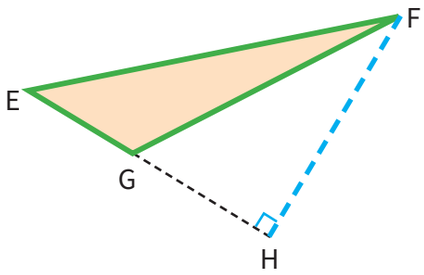
2 Berilgan balandlikka ko‘ra uchburchakning asosini aniqlang.

a)



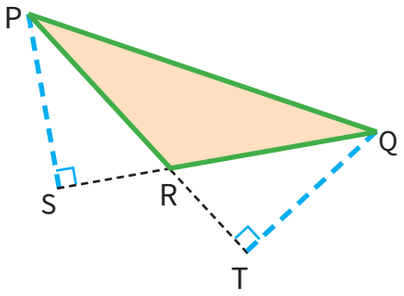
ABC uchburchakda BD – balandlik, _____ – asos.

b)



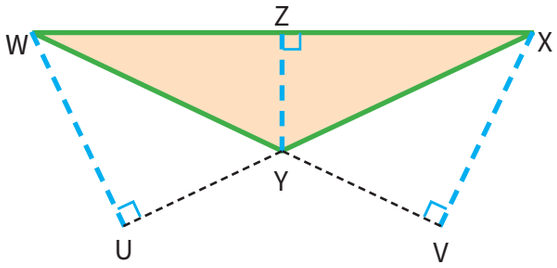
EFG uchburchakda FH – balandlik, _____ – asos.

c)



PQR uchburchakda PS – balandlik, _____ – asos.

d)



WXY uchburchakda YZ – balandlik, _____ – asos.

Mashq daftariga o‘ting **117–118**

O‘zingizni tekshiring



a) Men berilgan asosga ko‘ra uchburchakning balandligini topishni bilaman.

b) Men berilgan balandlikka ko‘ra uchburchakning asosini topishni bilaman.

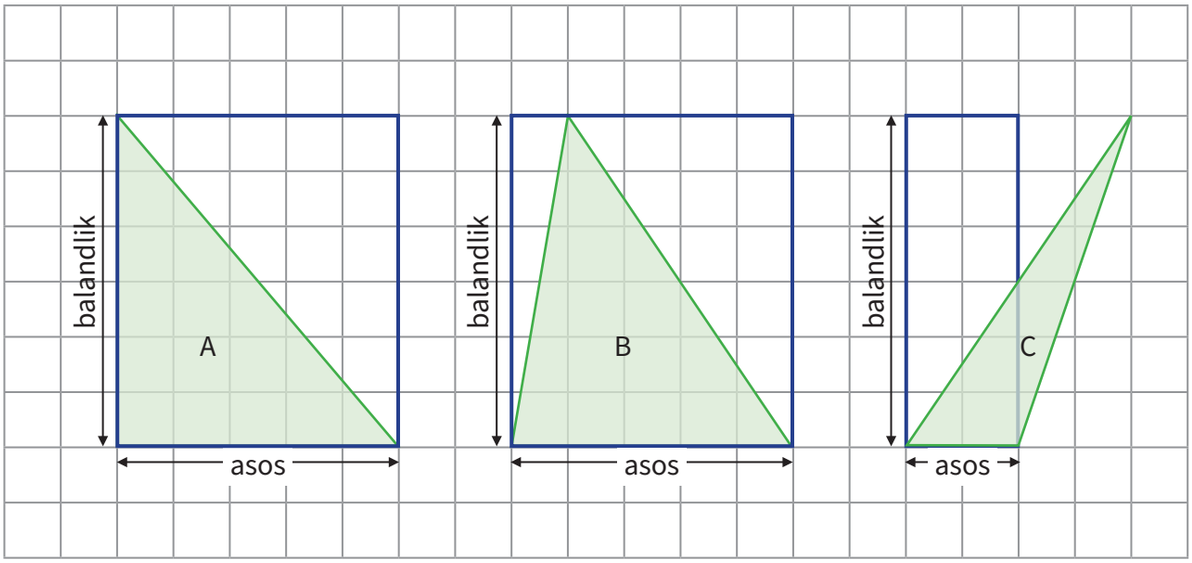
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 95 09/08/24 19:31

Uchburchakning yuzini topish

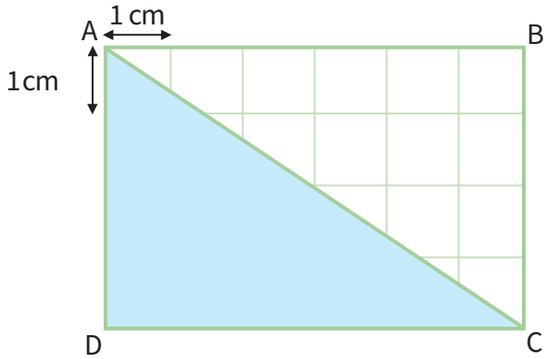
Qarang va o‘rganing



1 Quyida uchburchakka mos to‘g‘ri to‘rtburchakni aniqlash keltirilgan.



2 a) ABCD to‘g‘ri to‘rtburchakning bo‘yi 4 cm, eni 6 cm.



ACD uchburchak bilan ABCD to‘g‘ri to‘rtburchakning yuzlari orasida qanday bog‘liqlikni sezdingiz?



ABCD to‘g‘ri to‘rtburchakning yuzi = 6×4

$= 24\ (cm^2)$

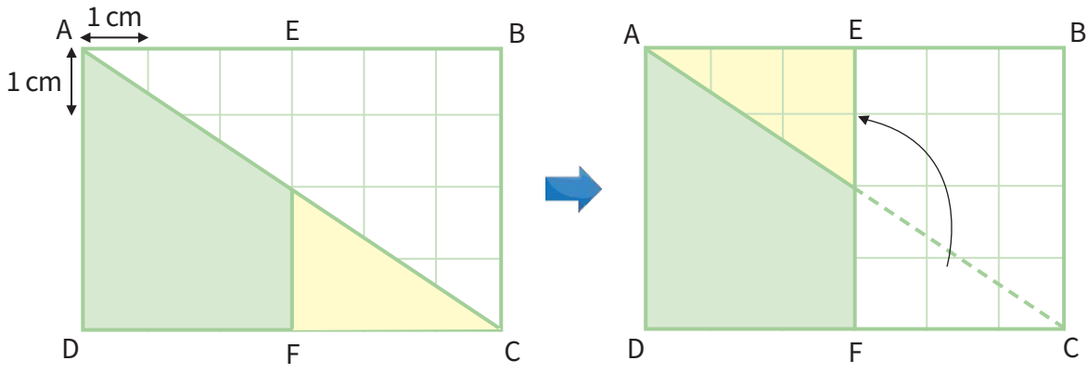
ACD uchburchak yuzi = $\frac{1}{2}$ × ABCD to‘g‘ri to‘rtburchak yuzi

$= \frac{1}{2} \times 24$

$= 12\ (cm^2)$

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 96 09/08/24 19:31

b)



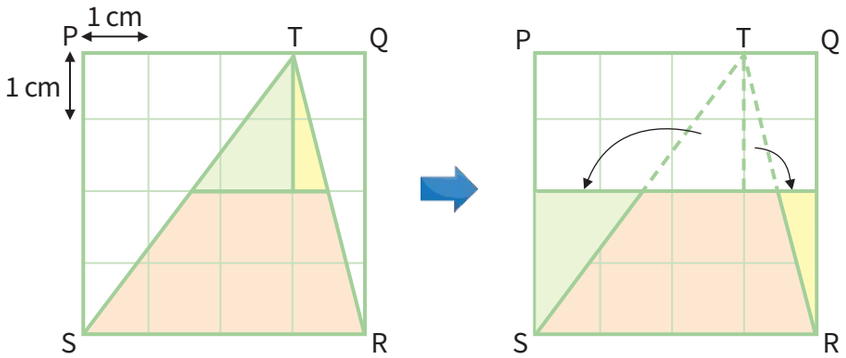
ABCD to‘g‘ri to‘rtburchak – ACD uchburchakka mos to‘g‘ri to‘rtburchak.

AEFD to‘g‘ri to‘rtburchak yuzi $= \frac{1}{2}$ × ABCD to‘g‘ri to‘rtburchak yuzi

$$= \frac{1}{2} \times 6 \times 4$$

$$= 12 \text{ (cm}^2\text{)}$$

3



PQRS kvadrat – STR uchburchakka mos kvadrat.

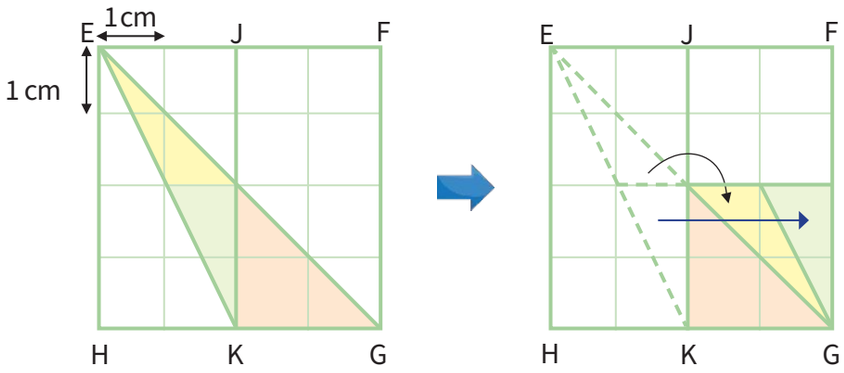
STR uchburchak yuzi $= \frac{1}{2}$ × PQRS kvadrat yuzi

$$= \frac{1}{2} \times 4 \times 4$$

$$= 8 \text{ (cm}^2\text{)}$$

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4



JFGK to‘g‘ri to‘rtburchak – EGK uchburchakka mos to‘g‘ri to‘rtburchak.

EGK uchburchak yuzi $= \frac{1}{2}$ × JFGK to‘g‘ri to‘rtburchak yuzi

$= \frac{1}{2} \times 2 \times 4$

$= \frac{1}{2} \times 8$

$= 4\ (cm^2)$

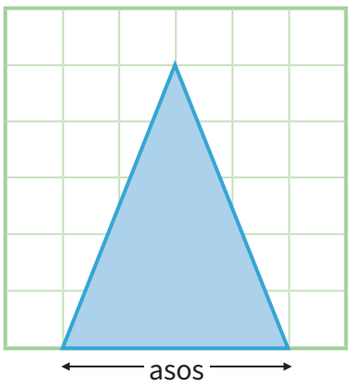
Uchburchakning yuzi unga mos to‘g‘ri to‘rtburchak yuzining **yarmiga** teng.

Juftlikda ishlang

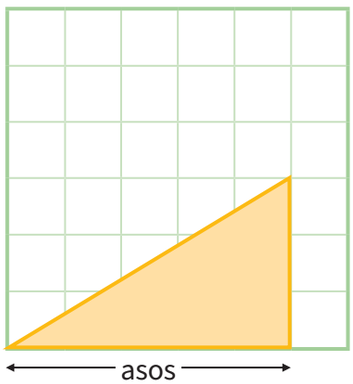


Juftlikda muhokama qiling.

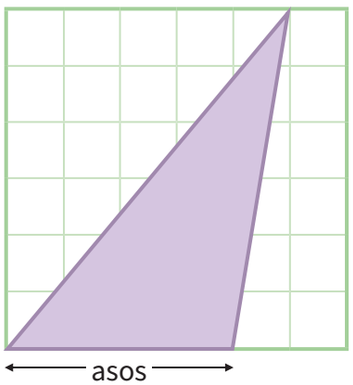
a) Uchburchaklarga mos to‘g‘ri to‘rtburchaklarni chizib ko‘rsating.



1-uchburchak



2-uchburchak



3-uchburchak

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 98 09/08/24 19:31

b) Yuqorida berilgan uchburchaklarning asosi, balandligi va yuzini toping. Uchburchaklarga mos to‘g‘ri to‘rtburchaklarning bo‘yi, eni va yuzi qanday? Javoblaringizni jadvalga yozing.

Uchbur-chak	Uchbur-chakning asosi (cm)	Uchbur-chakning balandligi (cm)	Uchbur-chakning yuzi (cm^2)	Mos to‘g‘ri to‘rtbur-chak	To‘g‘ri to‘rtbur-chakning bo‘yi (cm)	To‘g‘ri to‘rtbur-chakning eni (cm)	To‘g‘ri to‘rtbur-chakning yuzi (cm^2)
1				1			
2				2			
3				3			

Uchburchakning yuzi = ____ × mos to‘g‘ri to‘rtburchak yuzi

= ____ × mos to‘g‘ri to‘rtburchakning bo‘yi × eni

= ____ × uchburchakning asosi × balandligi



AKT mashqi

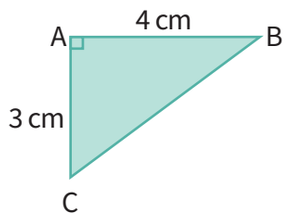
Uchburchakning yuzi unga mos to‘g‘ri to‘rtburchak yuzining yarmiga teng ekanini ko‘rsatish uchun “Uchburchak-to‘g‘ri to‘rtburchak” dasturidan foydalaning.

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5 Uchburchakning yuzini toping.

Uchburchakning yuzi = $\frac{1}{2}$ × asosi × balandligi

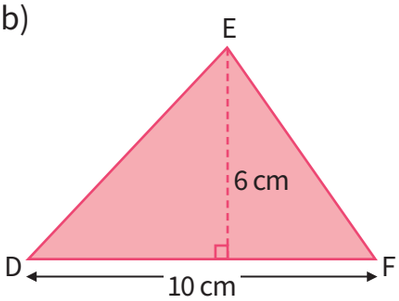
a)



ABC uchburchakning yuzi = $\frac{1}{2} \times 4 \times 3$

$= 6\ (cm^2)$

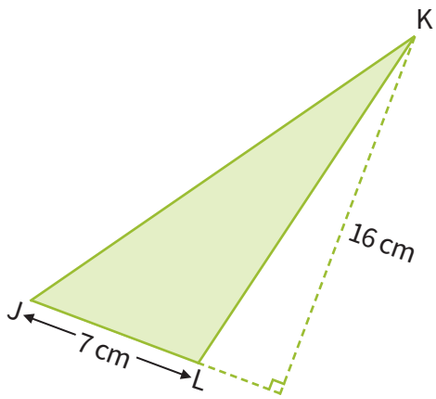
b)



DEF uchburchakning yuzi = $\frac{1}{2} \times 10 \times 6$

$= 30\ (cm^2)$

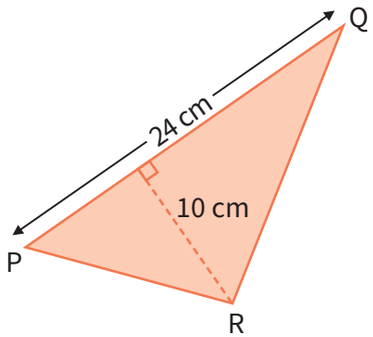
c)



JKL uchburchakning yuzi = $\frac{1}{2} \times 7 \times 16$

$= 56\ (cm^2)$

d)



PQR uchburchakning yuzi = $\frac{1}{2} \times 24 \times 10$

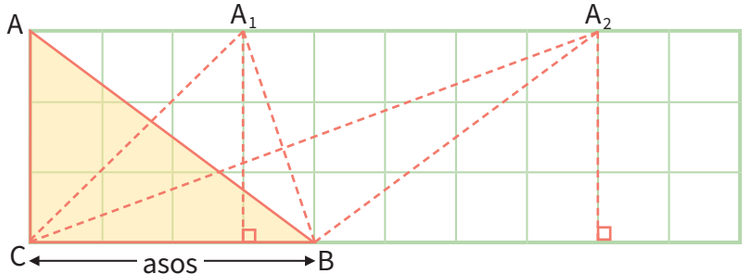
$= 120\ (cm^2)$

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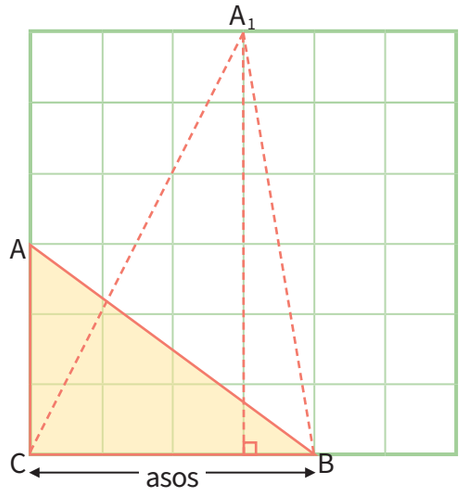
AKT mashqi

Quyidagilarni aniqlash uchun “Uchburchakning yuzi” dasturidan foydalaning.

a) Asosi ham, balandligi ham teng bo‘lgan uchburchaklarning yuzi teng bo‘ladimi?



b) Uchburchakning balandligi ortsa, uning yuzi qanday o‘zgaradi?



Qiziqarli matematika

O‘rganing va bo‘lishing

Guruh bo‘lib ishlang.

Sinf xonasidan yuzi 20 cm^2 ga teng bo‘lgan uchta turli uchburchak toping.



Uchburchaklarning balandligi va asosining uzunligi qancha?

Uchburchaklarga mos to‘g‘ri to‘rtburchak tomonlarining uzunligi qancha?



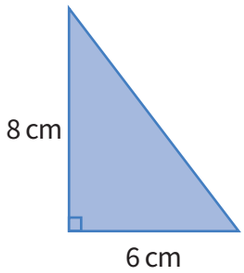
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 101 09/08/24 19:31

Bajaring va o‘rganing

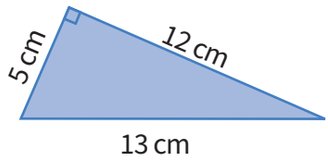


Bo‘yalgan uchburchaklarning yuzini toping.

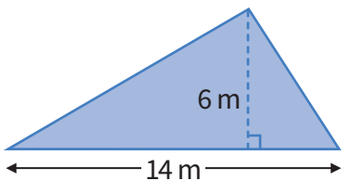
a)



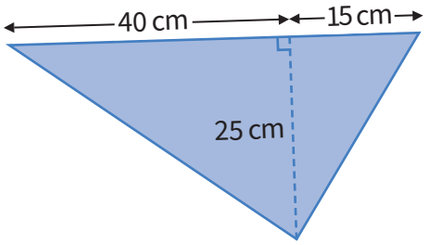
b)



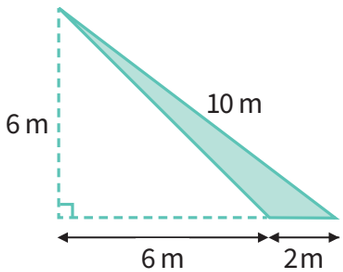
c)



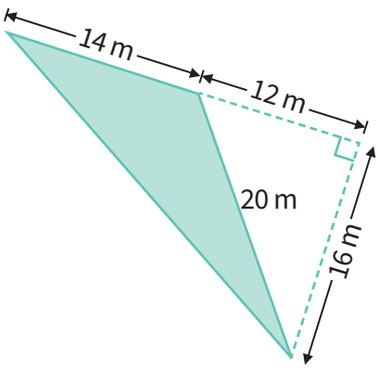
d)



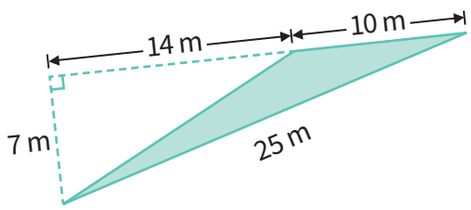
e)



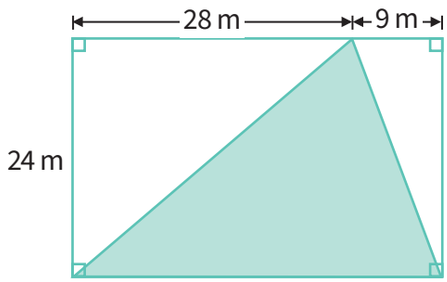
f)



g)



h)



Mashq daftariga o‘ting 119–122

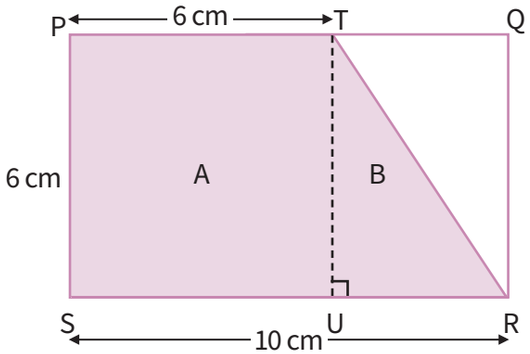
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 102 09/08/24 19:31

To‘g‘ri to‘rtburchak va uchburchaklardan tuzilgan murakkab shakllarning yuzi

Qarang va o‘rganing



1 PQRS – to‘g‘ri to‘rtburchak, PTUS esa kvadrat. Bo‘yalgan shaklning yuzini toping.



1-usul

A kvadratning yuzi = 6 × 6
= 36 (cm^2)

RU = 10 – 6
= 4 (cm)

B uchburchakning yuzi = $\frac{1}{2}$ × 4 × 6
= 12 (cm^2)

PTRS shaklning yuzi = 36 + 12
= 48 (cm^2)

2-usul

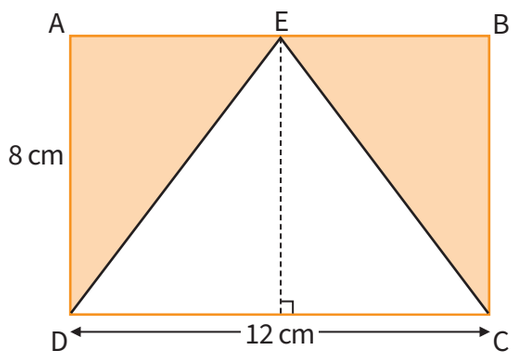
PQRS to‘g‘ri to‘rtburchakning yuzi = 10 × 6
= 60 (cm^2)

TQ = 10 – 6
= 4 (cm)

TQR uchburchakning yuzi = $\frac{1}{2}$ × 4 × 6
= 12 (cm^2)

PTRS shaklning yuzi = 60 – 12
= 48 (cm^2)

2 ABCD to‘g‘ri to‘rtburchakning bo‘yalgan qismi yuzini toping.



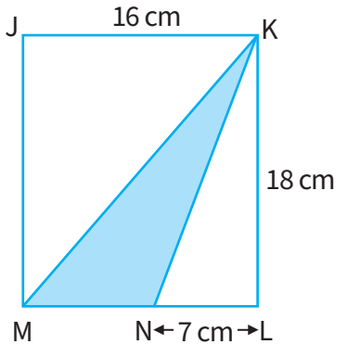
ABCD to‘g‘ri to‘rtburchakning yuzi = 12 × 8
= 96 (cm^2)

DEC uchburchakning yuzi = $\frac{1}{2}$ × 12 × 8
= 48 (cm^2)

Bo‘yalgan qismning yuzi = 96 – 48
= 48 (cm^2)

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3 JKLM to‘g‘ri to‘rtburchak berilgan. Bo‘yalgan uchburchak yuzini toping.



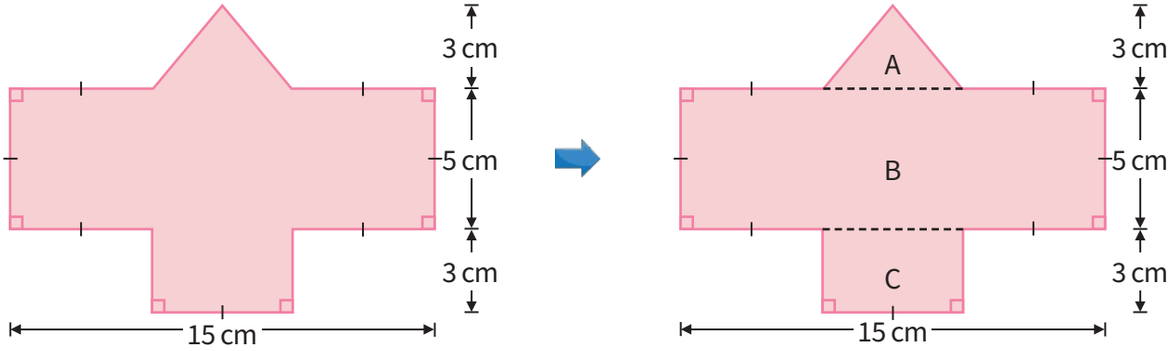
MN kesma KMN uchburchakning asosidir.

MN = 16 – 7 = 9 (cm)

Bo‘yalgan uchburchak yuzi = $\frac{1}{2} \times 9 \times 18$

$= 81\ (cm^2)$

4 Quyidagi rasmda keltirilgan shakl nimalardan tashkil topganini aniqlang va uning yuzini toping.

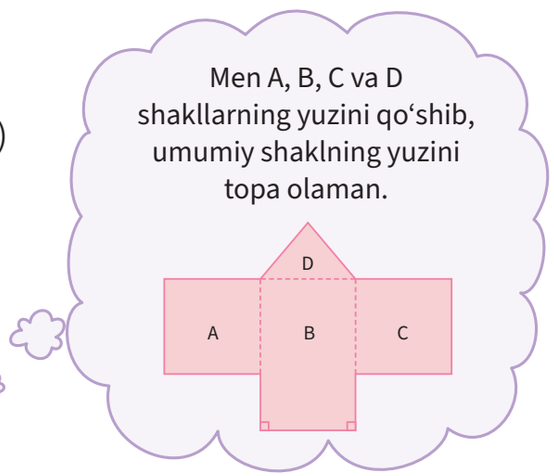


A uchburchakning yuzi = $\frac{1}{2} \times 5 \times 3 = 7{,}5\ (cm^2)$

B to‘g‘ri to‘rtburchakning yuzi = $15 \times 5 = 75\ (cm^2)$

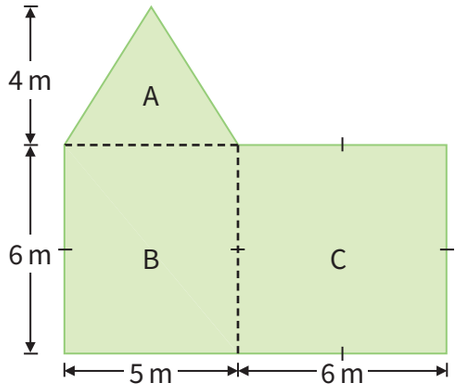
C to‘g‘ri to‘rtburchakning yuzi = $5 \times 3 = 15\ (cm^2)$

Shaklning yuzi = $7{,}5 + 75 + 15 = 97{,}5\ (cm^2)$



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5 Uchburchak, to‘g‘ri to‘rtburchak va kvadratdan tashkil topgan shaklning yuzini toping.



A uchburchakning yuzi = $\frac{1}{2} \times 5 \times 4 = 10$ (m^2)

B to‘g‘ri to‘rtburchakning yuzi = $6 \times 5 = 30$ (m^2)

C kvadratning yuzi = $6 \times 6 = 36$ (m^2)

Shaklning yuzi = $10 + 30 + 36 = 76$ (m^2)

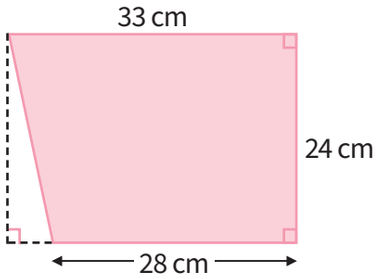
Qiziqarli matematika

O‘rganing va bo‘lishing

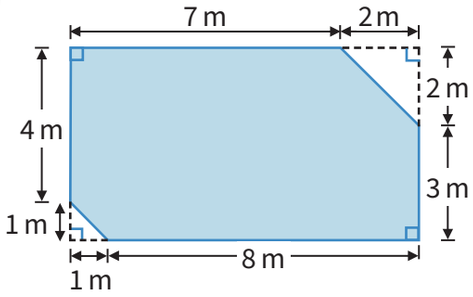


Quyidagi rasmda keltirilgan shakllar nimalardan tashkil topganini aniqlang va ularning yuzini toping. Javobingizni sinfdoshlaringiz bilan o‘rtoqlashing.

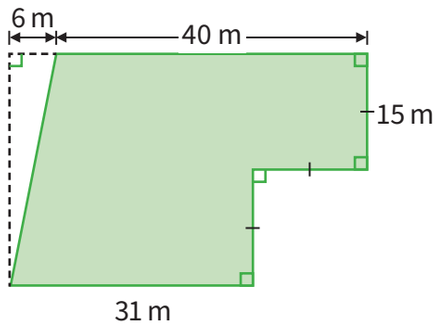
a)



b)



c)

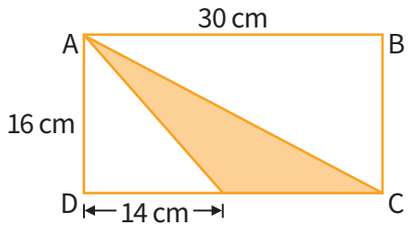


29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 105 09/08/24 19:31

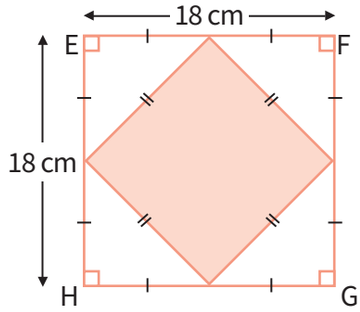
Bajaring va o‘rganing

1 Berilgan shakllardagi bo‘yalgan qismning yuzini toping.

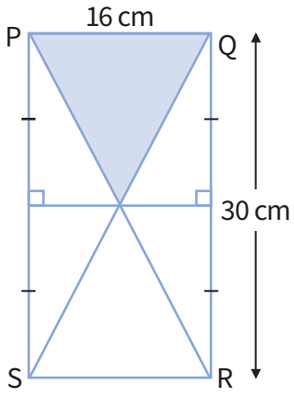
a) ABCD – to‘g‘ri to‘rtburchak.



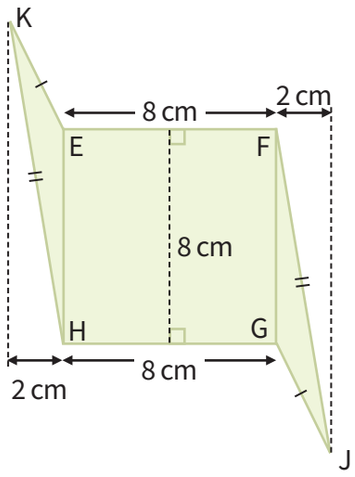
b) EFGH kvadrat va bo‘yalmagan 4 ta uchburchak o‘zaro teng.



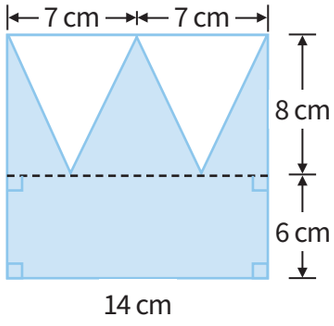
c) PQRS – to‘g‘ri to‘rtburchak.



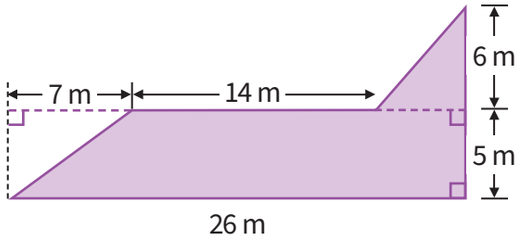
d) EFGH – kvadrat.



e)



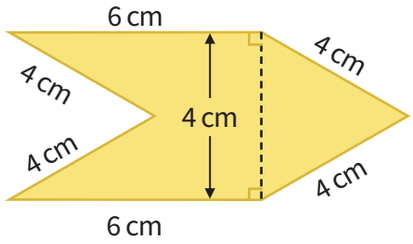
f)



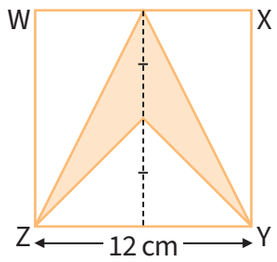
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 106 09/08/24 19:31

2 Shakllarning bo‘yalgan qismi yuzini qanday topish mumkinligini tushuntiring.

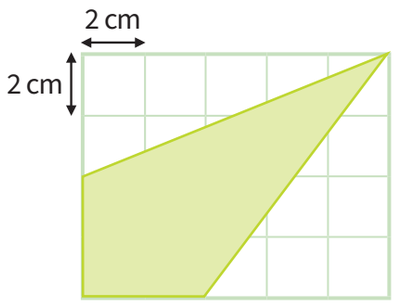
a)



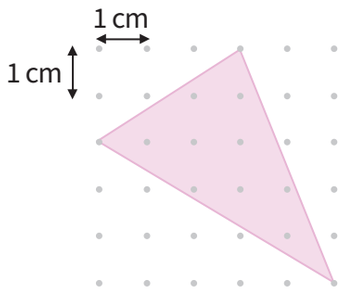
b) WXYZ – kvadrat.



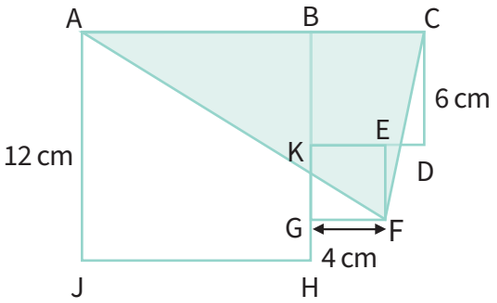
c) Bo‘yalgan shakl tomoni 2 cm bo‘lgan kvadrat panjarada chizilgan.



d) Bo‘yalgan uchburchak 1 cm li nuqtali panjarada chizilgan.



3 ABHJ, BCDK va KEFG – kvadratlar. Bo‘yalgan ACF uchburchakning yuzini 2 xil usul bilan toping va tushuntiring.



O‘zingizni tekshiring



a) Men uchburchakning yuzi unga mos to‘g‘ri to‘rtburchak yuzining yarmiga teng ekanini bilaman.

b) Men uchburchakning yuzini qanday topishni bilaman.

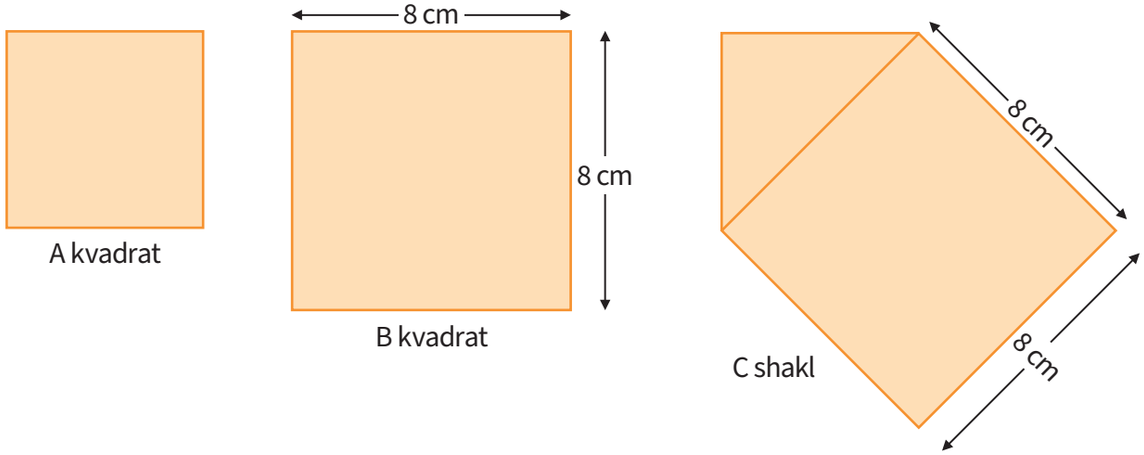
c) Men kvadrat, to‘g‘ri to‘rtburchak va uchburchaklardan tashkil topgan shaklning yuzini qanday topishni bilaman.

Mashq daftariga o‘ting **123–134**

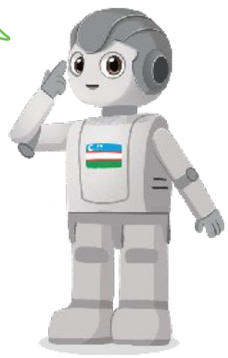
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 107 09/08/24 19:32

O‘ylab ko‘ring

A va B kvadratlar berilgan. C shaklni hosil qilish uchun rasmda ko‘rsatilganidek kichkina kvadratning yarmi katta kvadrat bilan yopildi. Hosil bo‘lgan C shaklning yuzini toping.



C shaklda ko‘rsatilgan kvadratni 4 ta teng uchburchakka bo‘la olasizmi? Har bir uchburchakning yuzi nechaga teng?



Mashq daftariga o‘ting **135–138**

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5 Hajm

Muhokama qiling



Kub hajmini topishning qanday yo‘llari bor?



Eslang



Kub, kuboid, hajm va sig‘im

1 **Kub** 6 ta kvadrat shaklidagi yoqlarga ega.
Kubning barcha qirralari o‘zaro teng bo‘ladi.



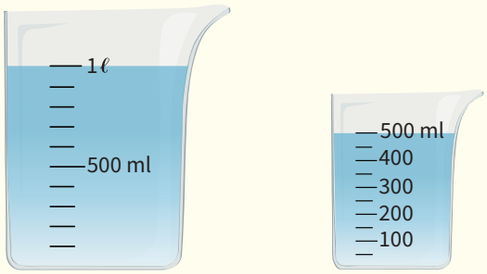
Kub yoki kuboid fazoda muayyan joyni egallagani uchun ularning hajmi bor.



2 **Kuboid** 6 ta to‘g‘ri to‘rtburchak yoki 4 ta to‘g‘ri to‘rtburchak va 2 ta kvadrat shaklidagi yoqlarga ega.



3 Idishga solingan suyuqlik muayyan joyni egallaydi.
Demak, uning **hajmi** bor. Suyuqlik hajmi litr yoki millilitrda o‘lchanadi.



4 **Idishning sig‘imi** uni to‘ldirish uchun zarur bo‘ladigan suyuqlik hajmiga teng.



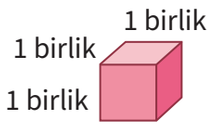
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Fazoviy jismlarning hajmi

Qarang va o‘rganing



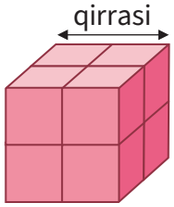
1 Bu – birlik kub. Birlik kub o‘lchamlari: 1 birlik × 1 birlik × 1 birlik.
Uning hajmi — 1 kub birlikka teng.





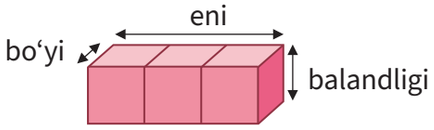
2 Quyidagi kub va kuboidlar birlik kublardan yasalgan.

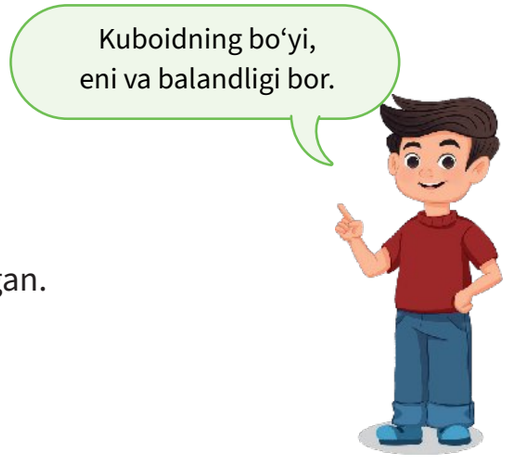
a) Bu kub 8 ta birlik kubdan tashkil topgan.



Kubning hajmi = 8 kub birlik.

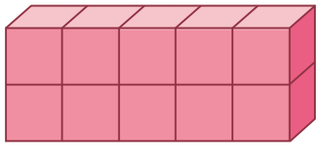
b) Bu kuboid 3 ta birlik kubdan tashkil topgan.





Kuboidning hajmi = 3 kub birlik.

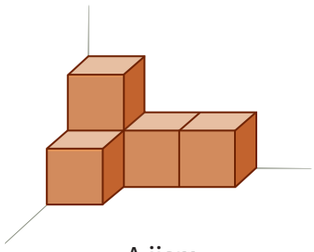
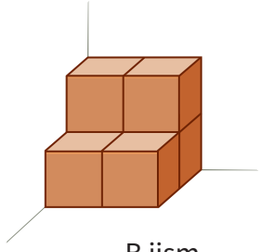
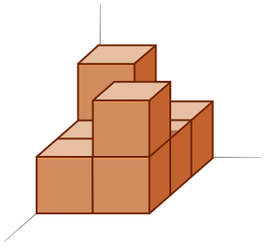
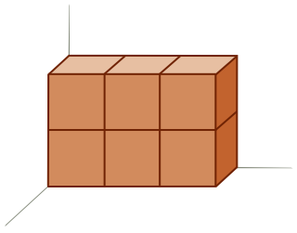
c) Bu kuboid 10 ta birlik kubdan tashkil topgan.



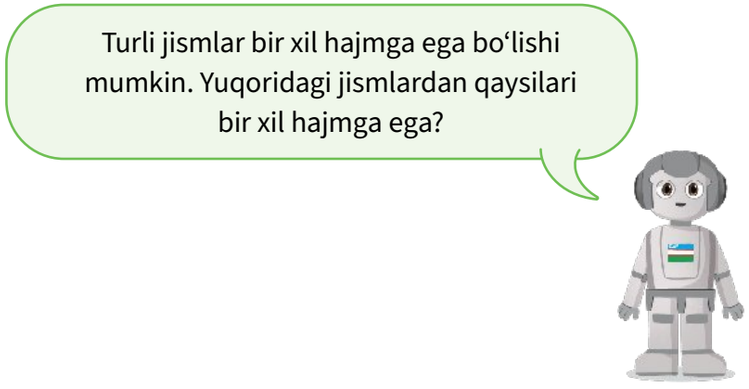
Kuboidning hajmi = 10 kub birlik.

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3 Quyidagi jismlar birlik kublardan yasalgan.
Turli jismlar bir xil hajmga ega bo‘lishi mumkinmi?

a)  A jism Birlik kublar soni 5 ta. A jism hajmi = 5 kub birlik.	b)  B jism Birlik kublar soni 6 ta. B jism hajmi = 6 kub birlik.
c)  D jism Birlik kublar soni 8 ta. D jism hajmi = 8 kub birlik.	d)  E jism Birlik kublar soni 6 ta. E jism hajmi = 6 kub birlik.

Ko‘rib turganingizdek, A jism eng kichik, D jism eng katta hajmga ega.



29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 112 09/08/24 19:32

Qo‘lda bajariladigan mashq

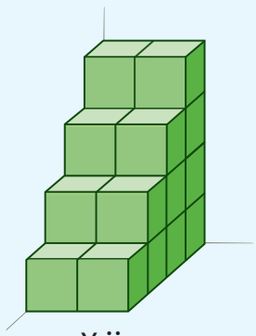
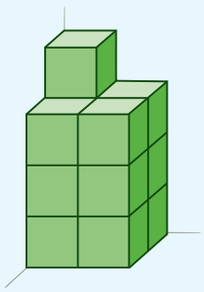
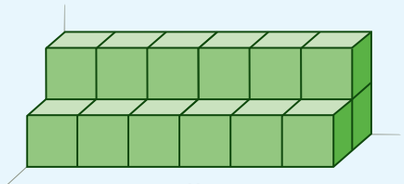


Guruh bo‘lib ishlang.

1 a) 3 ta birlik kubdan foydalanib ikki xil jism yasang.
Har bir jismning hajmini aniqlang.

b) 4 ta birlik kubdan foydalanib 4 xil jism yasang.
Har bir jismning hajmini aniqlang.

2 Quyidagi jismlarni yasash uchun birlik kublardan foydalaning va ularning hajmini taqqoslang.

Jism	Jismni yasash uchun kerak bo‘lgan birlik kublar soni	Jismning hajmi (kub birliklarda)
 X jism		
 Y jism		
 Z jism		

Qaysi jism eng katta hajmga ega?
Qaysi jism eng kichik hajmga ega?

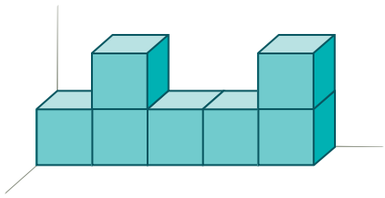
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 113 09/08/24 19:32

Bajaring va o‘rganing

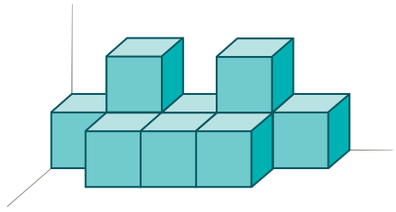


Quyidagi jismlarning hajmini toping.

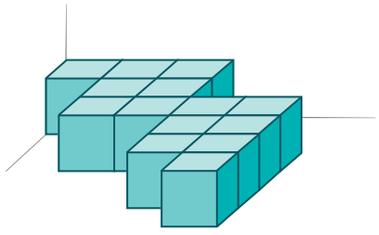
a)



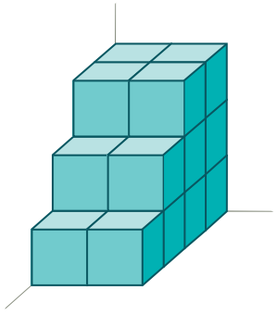
b)



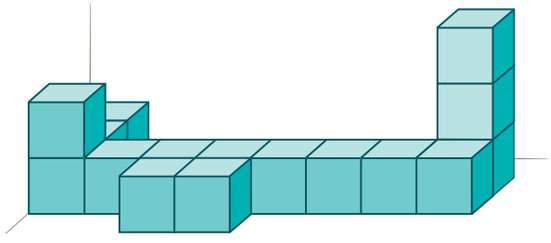
c)



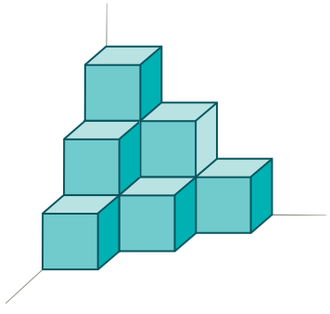
d)



e)



f)



Mashq daftariga o‘ting **139–140**

O‘zingizni tekshiring



a) Men birlik kublardan foydalanib jismlarni yasay olaman.

b) Men jismlarning hajmini kub birliklarida o‘lchay olaman.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 114 09/08/24 19:32

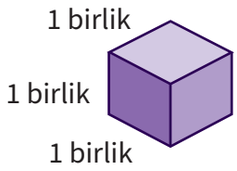
Uch o‘lchamli panjarada fazoviy jismlarni chizish

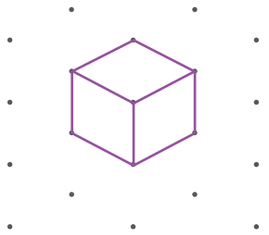
Qarang va o‘rganing



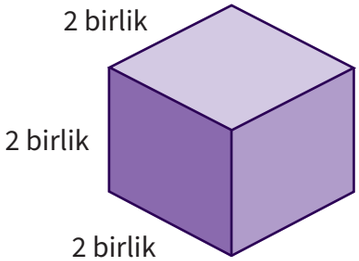
1 Kublarni uch o‘lchamli panjarada chizing.

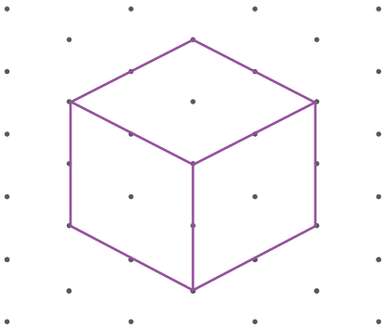
a)



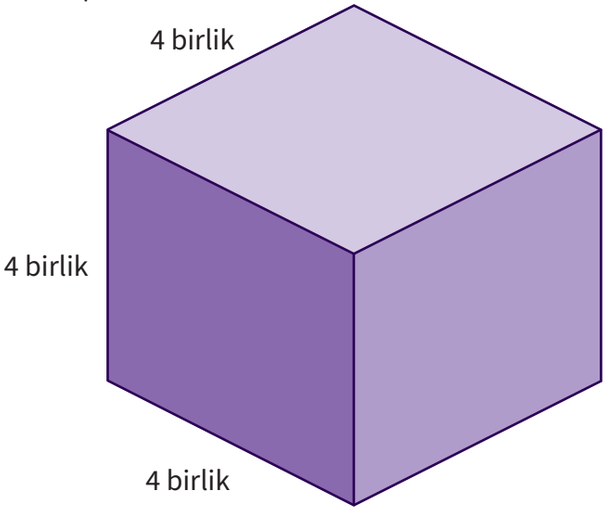


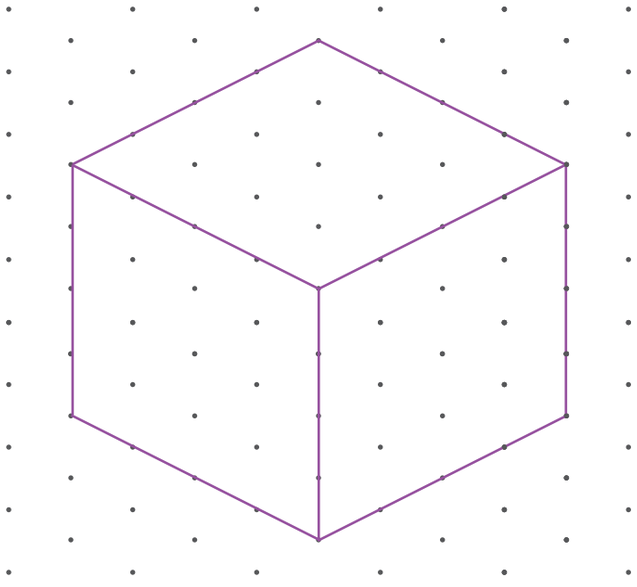
b)





c)

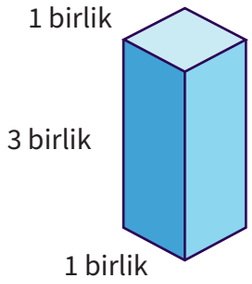


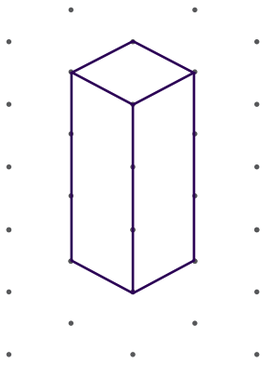


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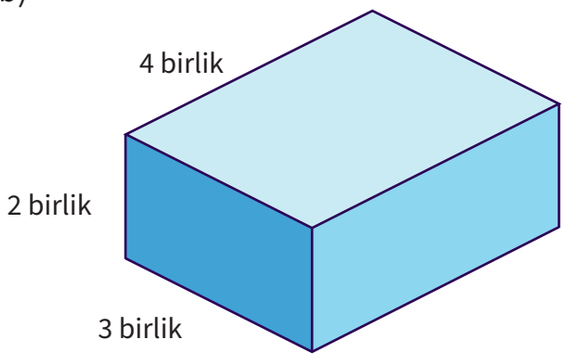
2 Kuboidlarni uch o‘lchamli panjarada chizing.

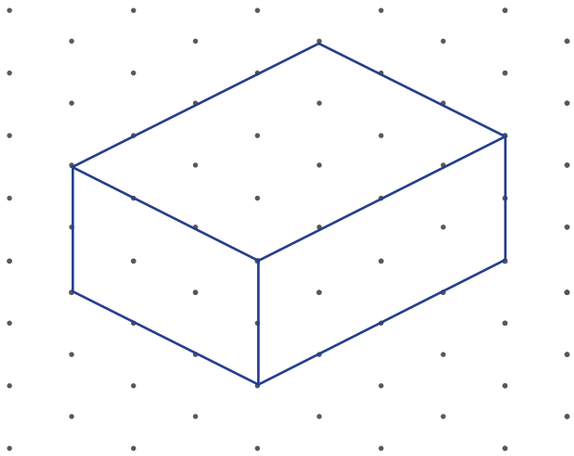
a)



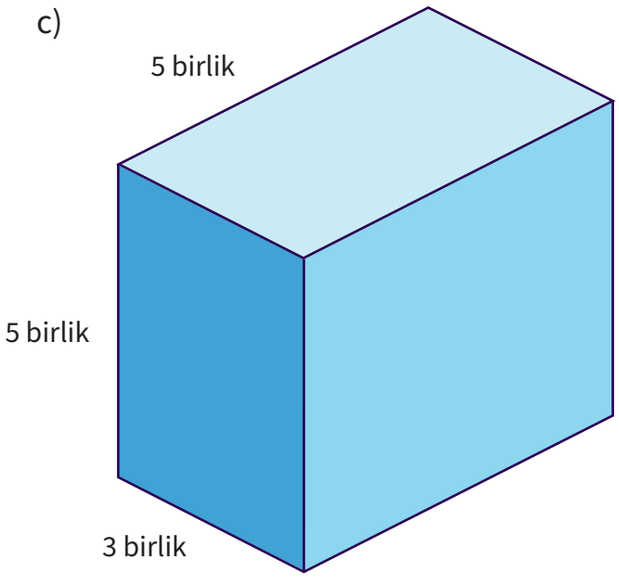


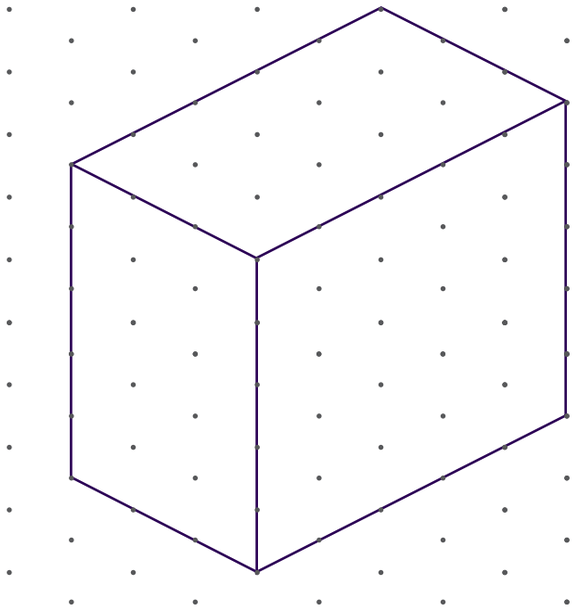
b)





c)

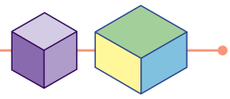




29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 116 09/08/24 19:32

Qo‘lda bajariladigan mashq





Guruh bo‘lib ishlang.
Quyidagi kub va kuboidlarni uch o‘lchamli panjarada ikki xil ko‘rinishda (joylashuvda) chizing va muhokama qiling.

a) o‘lchamlari 2 birlik (eni), 2 birlik (bo‘yi), 2 birlik (balandligi) bo‘lgan kub

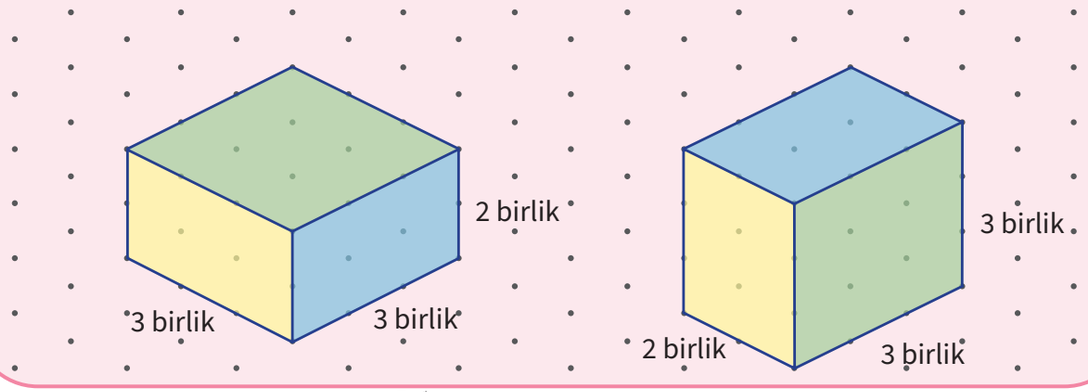
b) o‘lchamlari 4 birlik (eni), 4 birlik (bo‘yi), 4 birlik (balandligi) bo‘lgan kub

c) o‘lchamlari 3 birlik (eni), 1 birlik (bo‘yi), 1 birlik (balandligi) bo‘lgan kuboid

d) o‘lchamlari 4 birlik (eni), 1 birlik (bo‘yi), 2 birlik (balandligi) bo‘lgan kuboid

Misol

O‘lchamlari 3 birlik (eni), 3 birlik (bo‘yi), 2 birlik (balandligi) bo‘lgan kuboidni ikki xil ko‘rinishda (joylashuvda) chizing.

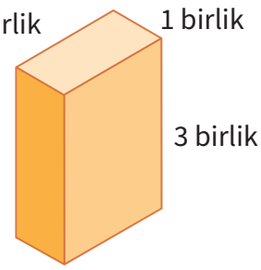


Bajaring va o‘rganing

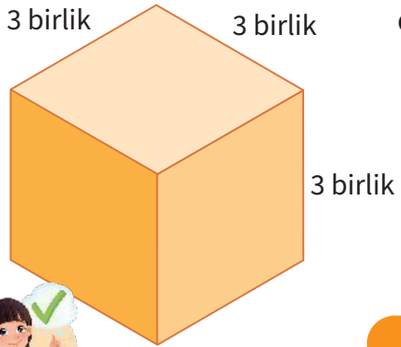


Quyidagilarni uch o‘lchamli panjarada chizing.

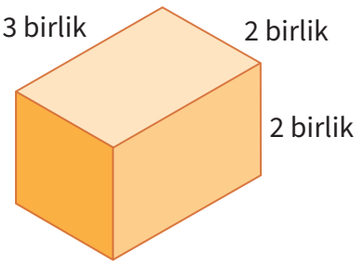
a)



b)



c)



O‘zingizni tekshiring



Mashq daftariga o‘ting 141–142

a) Men uch o‘lchamli panjarada kub chiza olaman.

b) Men uch o‘lchamli panjarada kuboid chiza olaman.

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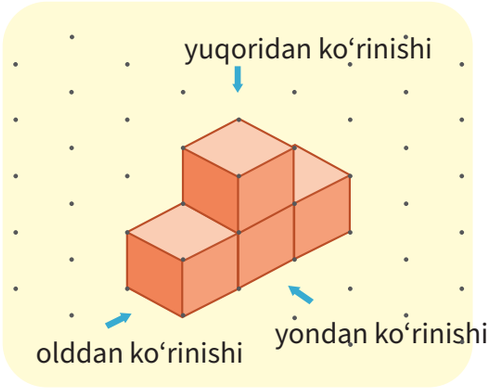
Kvadratli panjarada fazoviy jismlarning turli ko‘rinishlarini chizish

Qarang va o‘rganing

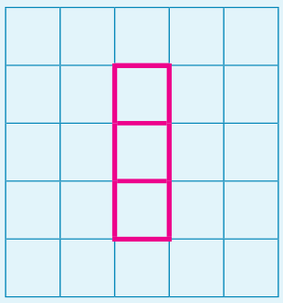


Har bir fazoviy jism birlik kublardan iborat.
Kvadratli panjarada har bir jismning yuqoridan, olddan va yondan ko‘rinishini chizing.

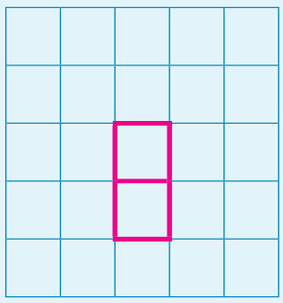
a)



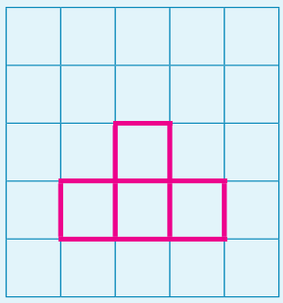
yuqoridan ko‘rinishi



olddan ko‘rinishi



yondan ko‘rinishi



Men yuqoridan qaraganimda 3 ta kvadrat yuzni ko‘raman.



Men olddan qaraganimda 2 ta kvadrat yuzni ko‘raman.

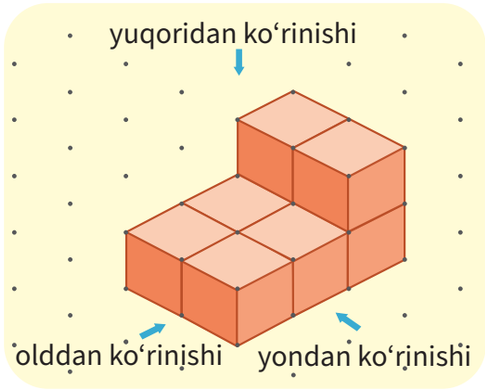


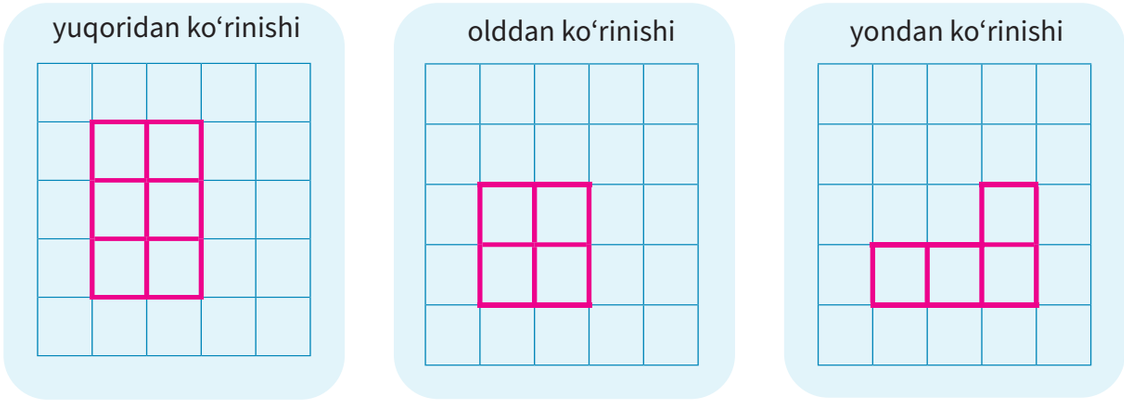
Men yondan qaraganimda 4 ta kvadrat yuzni ko‘raman.



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b)



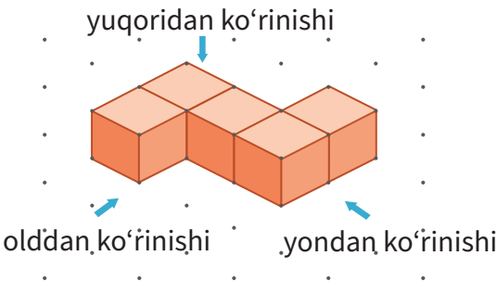


Juftlikda ishlang

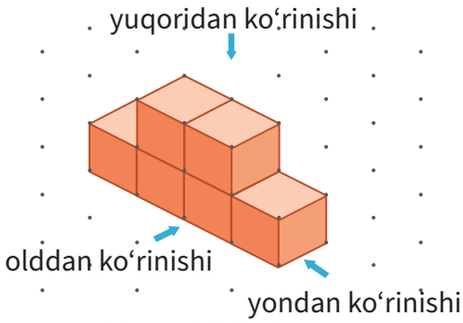


Guruh bo‘lib ishlang. Har bir jismning yuqoridan, olddan va yondan ko‘rinishini kvadrat panjarada chizing.

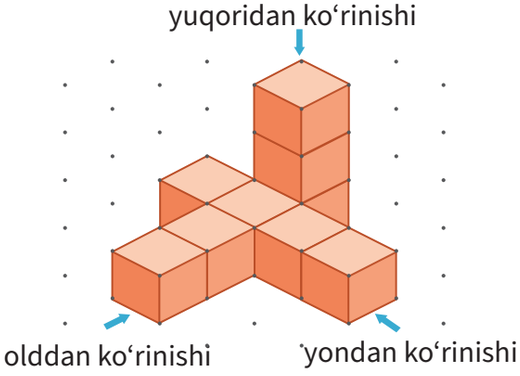
a)



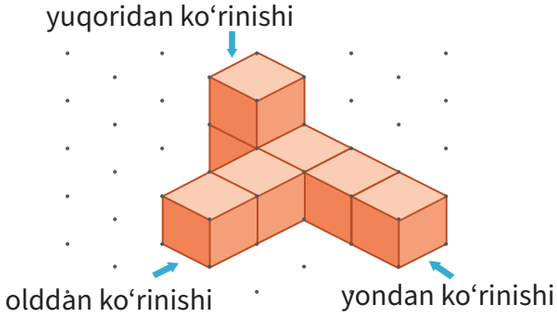
b)



c)



d)



Mashq daftariga o‘ting 143–144

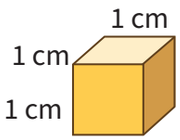
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 119 09/08/24 19:32

Hajmni santimetr kub va metr kubda o‘lchash

Qarang va o‘rganing



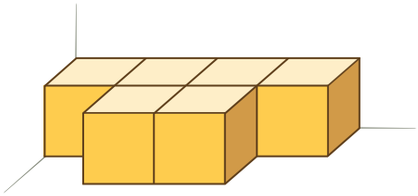
1 Bu kubning o‘lchamlari: 1 cm, 1 cm, 1 cm. Uni birlik kub sifatida olamiz.



Qirrasi 1 cm bo‘lgan birlik kubning hajmi 1 santimetr kub yoki 1 cm^3 ga teng.

2 Quyidagi jismlar qirrasi 1 cm bo‘lgan kublardan yasalgan.

a)

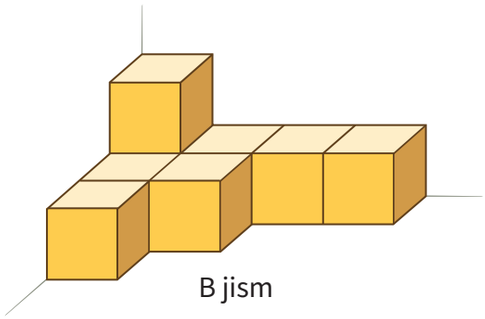


A jism

Birlik kublar soni 6 ta

A jismning hajmi = 6 cm^3

b)

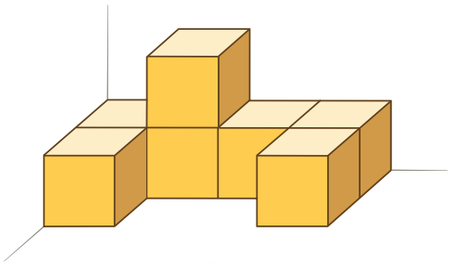


B jism

Birlik kublar soni 8 ta

B jismning hajmi = 8 cm^3

c)

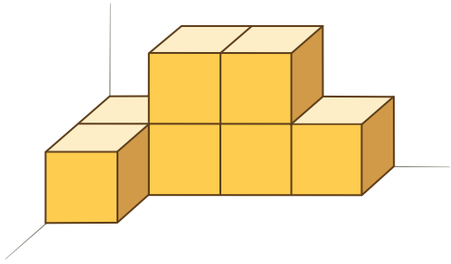


C jism

Birlik kublar soni 7 ta

C jismning hajmi = 7 cm^3

d)



D jism

Birlik kublar soni 7 ta

D jismning hajmi = 7 cm^3

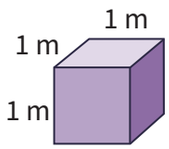
A jism eng kichik hajmga, B jism eng katta hajmga ega.

Yuqoridagi jismlardan qaysilari bir xil hajmga ega?



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3 Bu kubning o‘lchamlari: 1 m, 1 m, 1 m. Uni birlik kub sifatida olamiz.



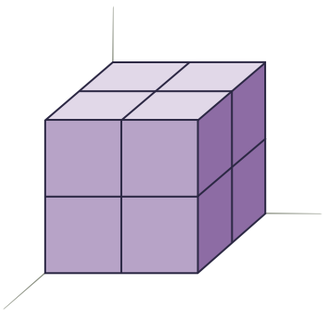
Qirrasi 1 m bo‘lgan birlik kubning hajmi 1 metr kub yoki 1 m^3 ga teng.

1 m = 100 cm
Qirrasi 1 m bo‘lgan kubning hajmi qirrasi 1 cm bo‘lgan kubdan kattaroqmi?



4 Quyidagi jismlar qirrasi 1 m bo‘lgan kublardan yasalgan.

a)

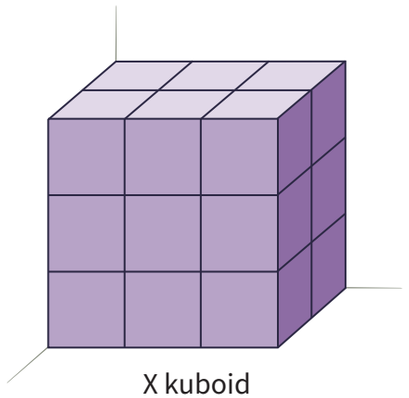


W kub

Birlik kublar soni 8 ta

W jismning hajmi = 8 m^3

b)

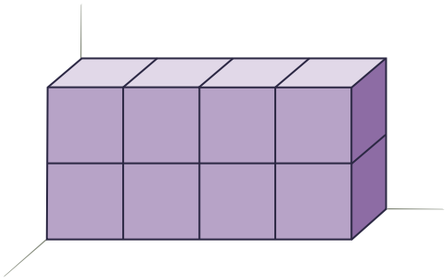


X kuboid

Birlik kublar soni 18 ta

X jismning hajmi = 18 m^3

c)

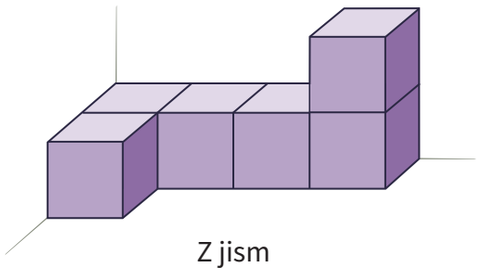


Y kuboid

Birlik kublar soni 8 ta

Y jismning hajmi = 8 m^3

d)



Z jism

Birlik kublar soni 6 ta

Z jismning hajmi = 6 m^3

Qaysi jism eng katta hajmga ega?
Qaysi jismlar bir xil hajmga ega?

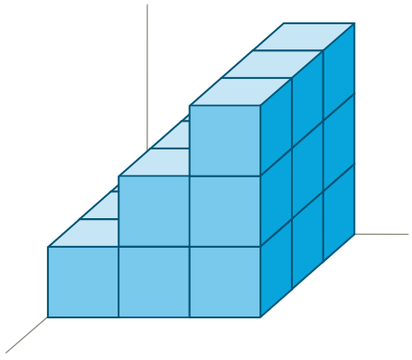
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 121 09/08/24 19:32

Bajaring va o‘rganing

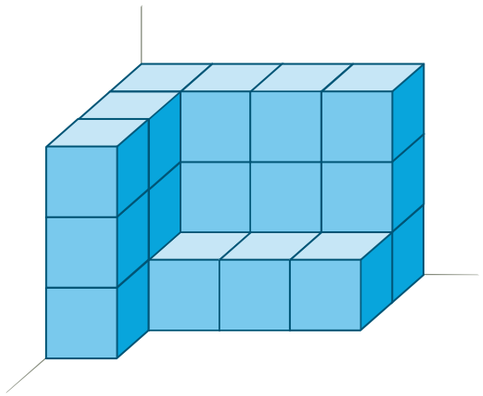


1 Quyidagi jismlar qirrasi 1 cm bo‘lgan kublardan yasalgan. Jismlarning hajmini santimetr kublarda toping.

a)

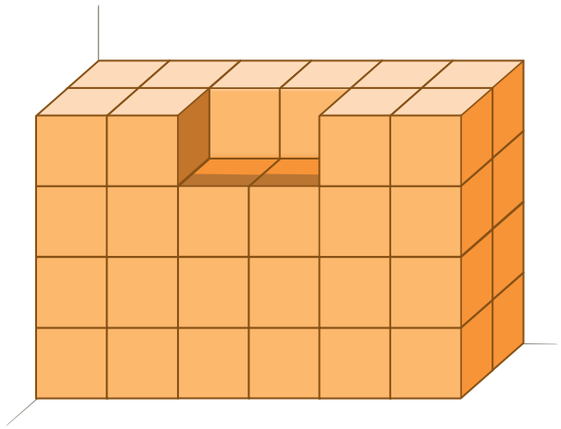


b)

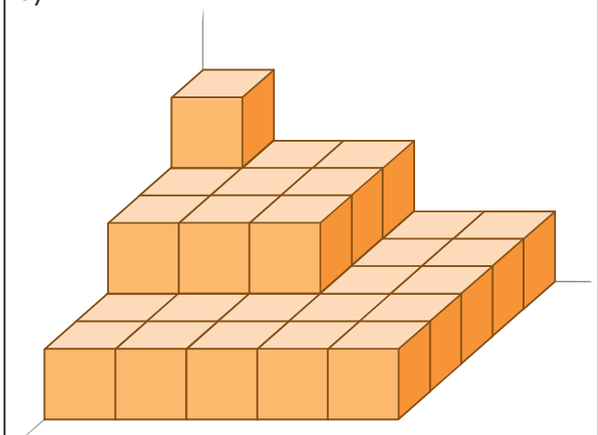


2 Quyidagi jismlar qirrasi 1 m bo‘lgan kublardan yasalgan. Jismlarning hajmini metr kublarda toping.

a)



b)



O‘zingizni tekshiring



Mashq daftariga o‘ting **145–146**

a) Men hajmni santimetr kublarda o‘lchashni bilaman.

b) Men hajmni metr kublarda o‘lchashni bilaman.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 122 09/08/24 19:32

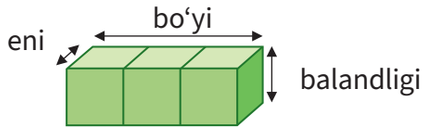
Kuboid va kubning hajmini topish

Qo‘lda bajariladigan mashq

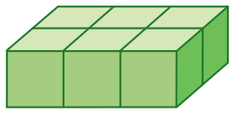


Guruh bo‘lib ishlang.

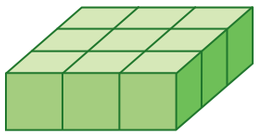
1 Quyidagi kuboidlarni yasash uchun birlik kublardan foydalanilgan. Har bir kuboidning hajmini toping.



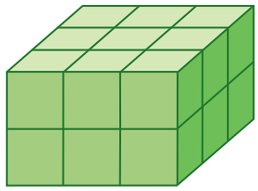
A



B



C



D

Kuboidlarning hajmini o‘lchashning birlik kublar sonini sanashdan boshqa yana qanday yo‘li bor?

Kuboid	Birlik kublarni sanash orqali topilgan hajm (kub birliklarda)	Bo‘yi (birliklarda)	Eni (birliklarda)	Balandligi (birliklarda)
A	3	3	1	1
B	6	3	2	1
C				
D				

2 Kuboid chizing va uning hajmini toping.

Nima uchun kuboidning hajmi uning bo‘yi, eni va balandligiga bog‘liq?



Kuboidning hajmini topish formulasi qanday?

Kuboidning hajmi = ☐ × ☐ × ☐

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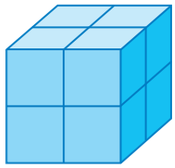
3 Quyidagi kublarni yasash uchun birlik kublardan foydalanilgan. Kublarning hajmini toping.

a)



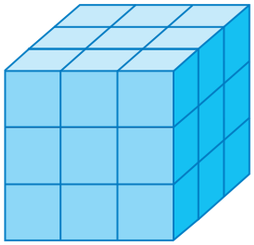
W

b)



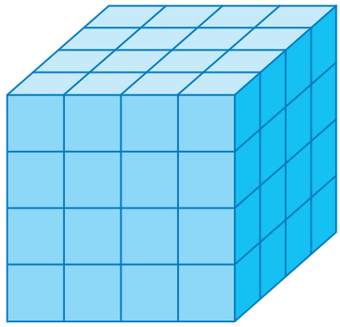
X

d)



Y

e)



Z

Kublarning hajmini o‘lchashning birlik kublar sonini sanashdan boshqa yana qanday yo‘li bor?

Kub	Birlik kublarni sanash orqali topilgan hajm (kub birliklarda)	Qirrasi (birliklarda)	Qirrasi (birliklarda)	Qirrasi (birliklarda)
W	1	1	1	1
X				
Y				
Z				

Kubning hajmi = ____ × ____ × ____

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 124 09/08/24 19:32

Qarang va o‘rganing

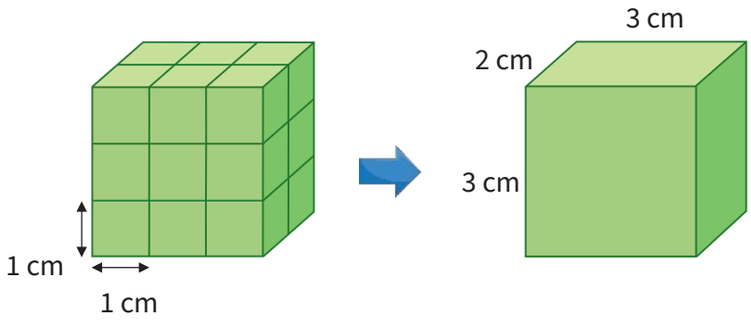


1 Kuboid yoki kub hajmi quyidagicha topiladi:

Kuboid hajmi = bo‘yi × eni × balandligi

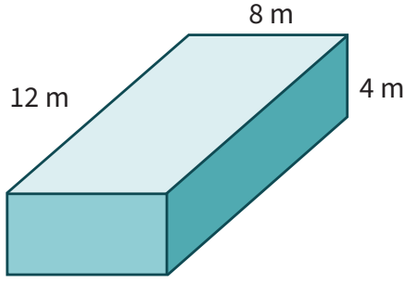
Kub hajmi = qirrasi × qirrasi × qirrasi

2 a) O‘lchamlari 3 cm, 2 cm, 3 cm bo‘lgan kuboidning hajmini toping.



Kuboid hajmi = bo‘yi × eni × balandligi = 3 × 2 × 3 = 18 (cm^3)

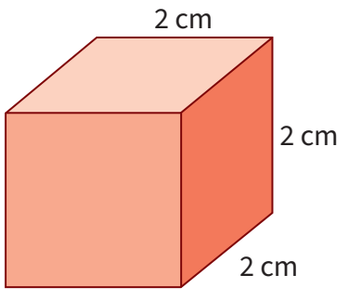
b) O‘lchamlari 12 m, 8 m, 4 m bo‘lgan kuboidning hajmini toping.



Kuboid hajmi = 12 × 8 × 4 = 384 (m^3)

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 125 09/08/24 19:32

3 a) O‘lchamlari 2 cm, 2 cm, 2 cm bo‘lgan kubning hajmini toping.

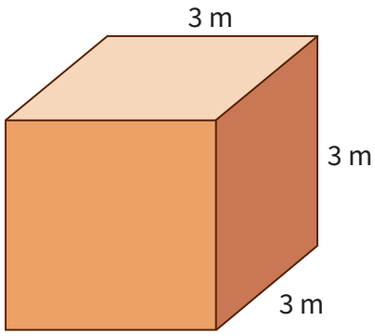


Kub hajmi = qirrasi × qirrasi × qirrasi

= 2 × 2 × 2

= 8 cm^3

b) O‘lchamlari 3 m, 3 m, 3 m bo‘lgan kubning hajmini toping.

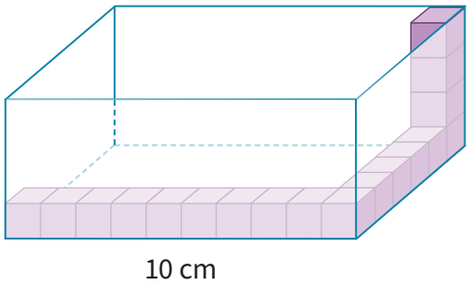


Kub hajmi = qirrasi × qirrasi × qirrasi

= 3 × 3 × 3

= 27 m^3

4 Kuboid shaklidagi shisha idish pastda ko‘rsatilganidek qirrasi 1 cm bo‘lgan kublar bilan qisman to‘ldirilgan. Ma’lumotlar asosida idishning hajmini toping.



Bo‘yi = 10 cm

Eni = 6 cm

Balandligi = 4 cm

Shisha idish hajmi = 10 × 6 × 4

= 240 cm^3

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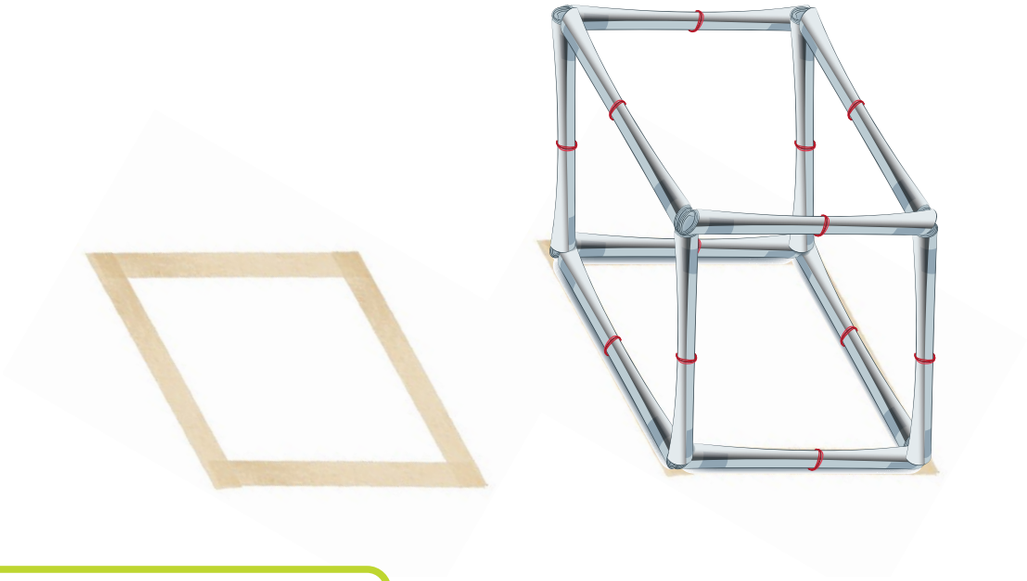
Qo‘lda bajariladigan mashq



Guruh bo‘lib ishlang.

1 Tomoni 1 cm bo‘lgan kvadrat va qirrasi 1 cm bo‘lgan kubni taqqoslang. Kvadratning yuzi va kubning hajmi o‘rtasidagi farqni toping. Qanday farqni payqadingiz?

2 Pol ustida yopishqoq tasmadan foydalanib rasmda ko‘rsatilgandek, tomoni 1 m bo‘lgan kvadrat hosil qiling. So‘ng eski gazetalarni o‘rab, uzunligi 1 m bo‘lgan o‘ramlarni qirqib oling. Qirrasi 1 m bo‘lgan kub hosil qilish uchun 12 ta gazeta o‘ramlarini bir-biriga skotch bilan birlashtiring. Kvadratning yuzi va kubning hajmini toping.



Turmushda matematika

Xalqaro savdo-sotiqda katta hajmdagi yuklar odatda konteynerlarda tashiladi. Dengiz portlarida har kuni minglab konteynerlar yuk tashuvchi kemaga yuklanadi yoki tushiriladi.



Konteyner o‘lchami	Hajmi
20 futli yuk konteyneri	33,150 m^3
40 futli yuk konteyneri	67,700 m^3

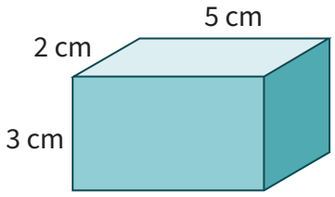
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 127 09/08/24 19:32

Bajaring va o‘rganing

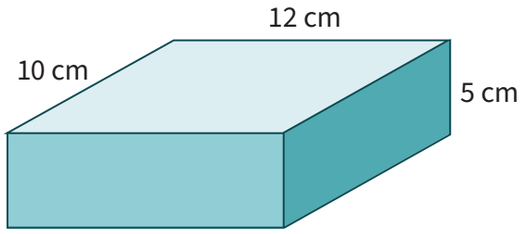


1 Kuboidlarning hajmini toping.

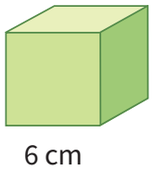
a)



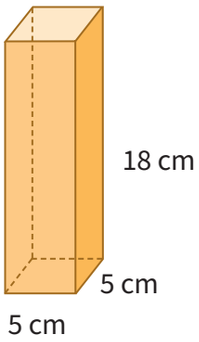
b)



2 Kubning hajmini toping.

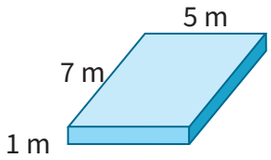


3 Asosi kvadrat bo‘lgan kuboidning hajmini toping.

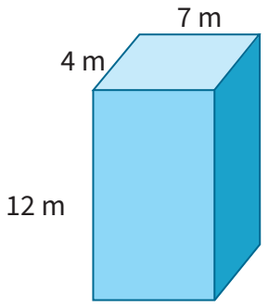


4 Kuboidlarning hajmini toping.

a)



b)



O‘zingizni tekshiring



Mashq daftariga o‘ting **147–150**

a) Men kub va kuboidni farqlay olaman.

b) Men formula yordamida kuboidning hajmini topishni bilaman.

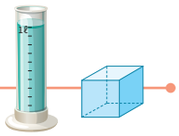
c) Men formula yordamida kubning hajmini topishni bilaman.

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Suyuqliklar hajmini santimetr kub va metr kubda o‘lchash

Qo‘lda bajariladigan mashq





Guruh bo‘lib ishlang.

1 Silindr shaklidagi o‘lchov idishini 1 ℓ suv bilan to‘ldiring. So‘ng undagi suvni o‘lchamlari 10 cm, 10 cm, 10 cm bo‘lgan kub shaklidagi idishga quying.

a) Idishning hajmi qanday?

Idish hajmi = ____ cm × ____ cm × ____ cm

= ____ cm^3

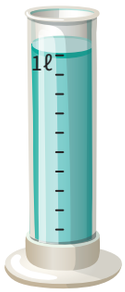
b) ml va cm^3 o‘rtasida qanday bog‘liqlik bor?

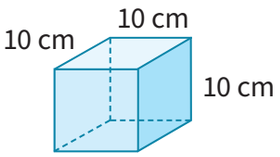
1 ℓ = 1000 ml

1000 ml = ____ cm^3

1 ml = ____ cm^3

1 ℓ = ____ cm^3





2 Uydan 4 ta bo‘sh idish olib keling. Ularga A, B, C va D harflarini yopishtiring. Idishlarni suv bilan liq to‘ldiring. So‘ng suvni kub shaklidagi idishga quying va har safar suv sathini aniqlang. Formuladan foydalanib har bir idishning sig‘imini toping.

Idish	Suv hajmi (cm^3)	Idishdagi suv hajmi	Idish sig‘imi
A	10 × 10 × ____ =		
B			
C			
D			

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Qarang va o‘rganing



1 1 ml = 1 cm^3

a) 4 ml = 4 cm^3

b) 125 ml = 125 cm^3

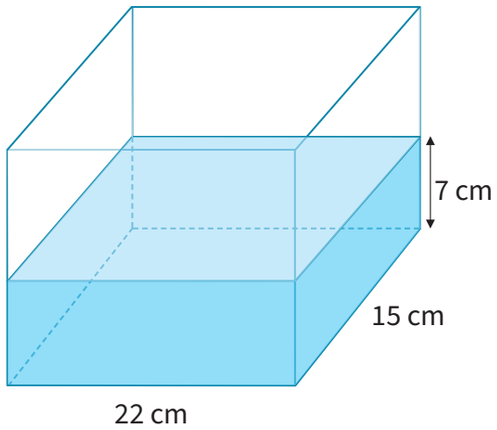
c) 27 cm^3 = 27 ml

d) 308 cm^3 = 308 ml

2 Kuboid shakliga ega idishdagi suv hajmini toping. Javobni millilitrlarda ifodalang.

Idishdagi suv hajmi = 22 × 15 × 7
= 2310 cm^3

2310 cm^3 = 2310 ml
Idishdagi suv hajmi 2310 ml.



Bajaring va o‘rganing



1 Santimetr kubda ifodalang.

a) 9 ml = ____

b) 159 ml = ____

c) 6 ℓ = ____

d) 8 ℓ 34 ml = ____

2 Litr va millilitrlarda ifodalang.

a) 69 cm^3 = ____

b) 5004 cm^3 = ____

c) 7080 cm^3 = ____

d) 3105 cm^3 = ____

Mashq daftariga o‘ting **151–152**

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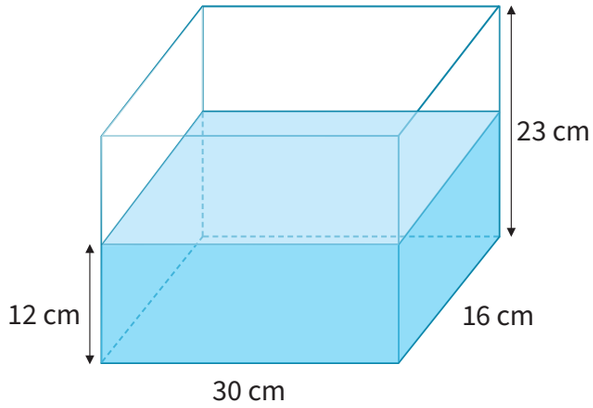
Matnli masalalar

Qarang va o‘rganing



1 O‘lchamlari 30 cm, 16 cm va 23 cm bo‘lgan kuboid shaklidagi idishga suv quyilgan.

a) Idishdagi suvning hajmi qancha?
b) Idishni to‘ldirish uchun yana qancha suv kerak?



a) Idishdagi suv hajmi = 30 × 16 × 12
= 5760 cm^3

b)

1-usul

Idishning hajmi = 30 × 16 × 23
= 11 040 cm^3

Idishni to‘ldirish uchun kerak bo‘ladigan suv hajmi = 11 040 – 5760
= 5280 cm^3

2-usul

Idishning suv bilan to‘lmagan qismi balandligi = 23 – 12
= 11 cm

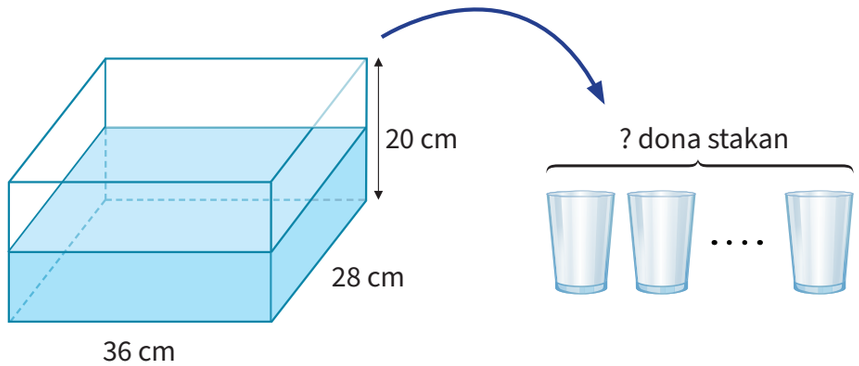
Idishni to‘ldirish uchun kerak bo‘ladigan suv hajmi = 30 × 16 × 11
= 5280 cm^3

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2 Mahallada o‘lchamlari 8,5 m, 6 m, 2,5 m bo‘lgan hovuz bor. Hovuzning sig‘imini toping.

Hovuzning sig‘imi = 8,5 × 6 × 2,5
= 127,5 m^3

3 O‘lchamlari 36 cm, 28 cm, 20 cm bo‘lgan kuboid shaklidagi idish yarmigacha suv bilan to‘ldirilgan. Idishdagi suv bir xil bo‘sh stakanlarga quyildi. Agar har bir stakanning sig‘imi 120 cm^3 bo‘lsa, idishdagi suv nechta stakanga quyilgan?

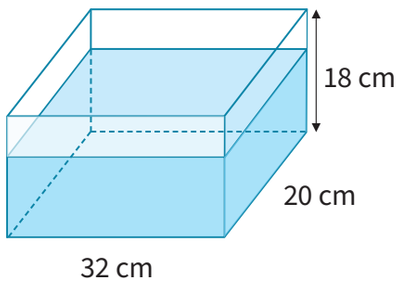


Idishdagi suv hajmi = $\frac{1}{2}$ × 36 × 28 × 20
= 10 080 cm^3

Suv bilan to‘ldirilgan stakanlar soni = 10 080 ÷ 120
= 84

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4 O‘lchamlari 32 cm, 20 cm, 18 cm bo‘lgan kuboid shaklidagi idishda dastlab 3,2 ℓ suv bor edi. Keyin idishning $\frac{2}{3}$ qismi suv bilan to‘ldirildi. Idishga qancha suv quyilganini toping.



1-usul

Idishning $\frac{2}{3}$ qismi to‘ldirilgandagi suv hajmi $= \frac{2}{3} \times 32 \times 20 \times 18$

$= 7680 \text{ cm}^3$

$3{,}2 \text{ ℓ} = 3200 \text{ ml}$

$= 3200 \text{ cm}^3$

Idishga quyilgan suv hajmi $= 7680 - 3200$

$= 4480 \text{ cm}^3$

2-usul

Idishning $\frac{2}{3}$ qismi to‘ldirilgandagi suv sathi balandligi $= \frac{2}{3} \times 18$

$= 12 \text{ cm}$

Idishning $\frac{2}{3}$ qismi to‘ldirilgandagi hajmi $= 32 \times 20 \times 12$

$= 7680 \text{ cm}^3$

$3{,}2 \text{ ℓ} = 3200 \text{ ml}$

$= 3200 \text{ cm}^3$

Idishga quyilgan suv hajmi $= 7680 - 320 = 4480 \text{ cm}^3$

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Bajaring va o‘rganing



Matnli masalalarni yeching.

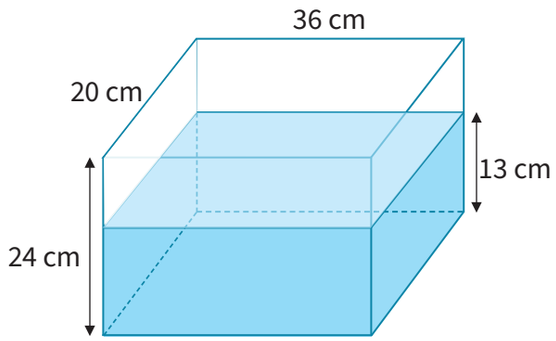
1 O‘lchamlari 36 cm, 20 cm, 24 cm bo‘lgan kuboid shaklidagi idishga qanchadir suv quyilgach, undagi suv sathi 13 cm ni tashkil qilgan.

(a) Idishdagi suvning hajmini toping.

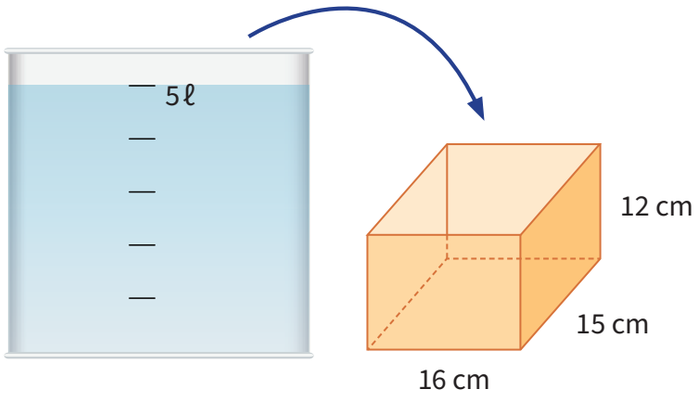
(b) Idishni to‘ldirish uchun kerak bo‘ladigan suv hajmini toping.

Javoblarni litr va millilitrlarda ifodalang.

(1 ℓ = 1000 cm^3)

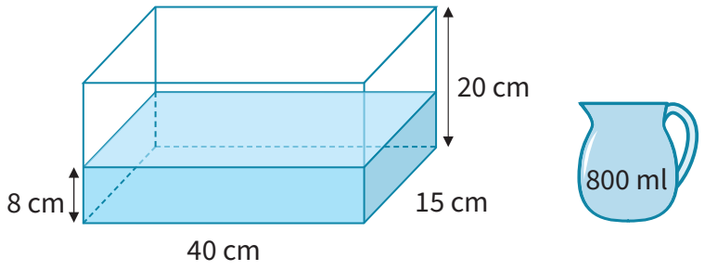


2 Katta idishda dastlab 5 ℓ suv bor edi. Aziza opa idishdagi suvdan o‘lchamlari 16 cm, 15 cm, 12 cm bo‘lgan kuboid shaklidagi bo‘sh idishga quydi. Idish bir tomchi suv to‘kilmasdan liq to‘ldi. Katta idishda qolgan suv miqdorini aniqlang.

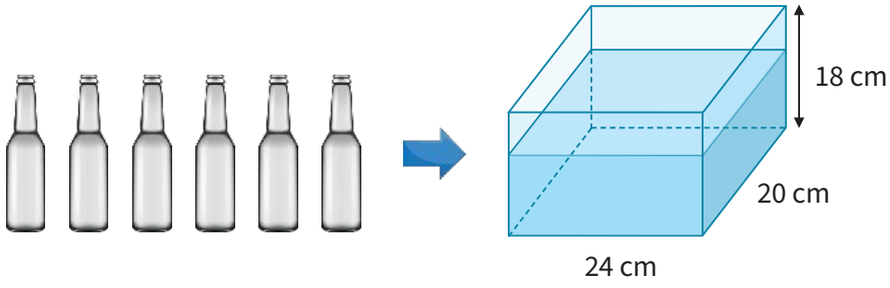


29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 134 09/08/24 19:32

3 O‘lchamlari 40 cm, 15 cm, 20 cm bo‘lgan kuboid shaklidagi idishga suv sathi balandligi 8 cm bo‘lgunga qadar suv quyilgan. Idishni to‘ldirish uchun sig‘imi 800 ml bo‘lgan ko‘zada necha marta suv quyish kerak?

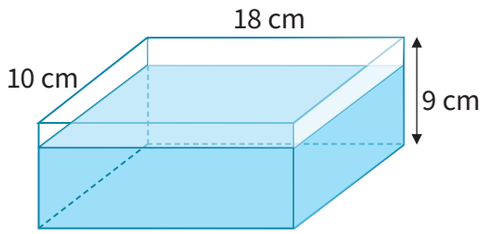


4 6 ta bir xil shisha idishdagi suv o‘lchamlari 24 cm, 20 cm, 18 cm bo‘lgan, kuboid shaklidagi bo‘sh idishga quyildi. Shunda idishning $\frac{2}{3}$ qismi to‘ldi. Har bir shisha idishning sig‘imini toping.

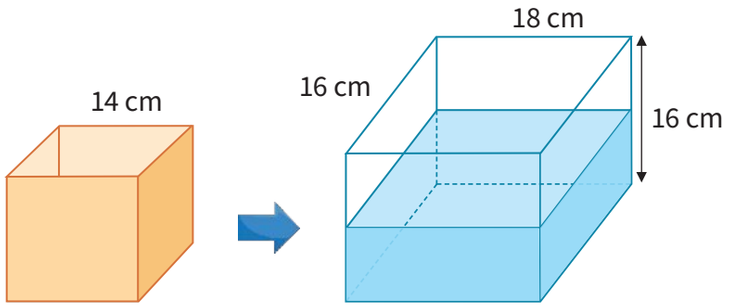


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5 O‘lchamlari 18 cm, 10 cm, 9 cm bo‘lgan kuboid shaklidagi idishning $\frac{4}{5}$ qismi suv bilan to‘ldirilgan. So‘ng idishdan 432 ml suv to‘kib tashlandi. Idishda qolgan suvning hajmini toping. Javobingizni litrda ifodalang.



6 Qirrasi 14 cm bo‘lgan kub shaklidagi idish suv bilan to‘ldirilgan. Suvning bir qismi o‘lchamlari 18 cm, 16 cm, 16 cm bo‘lgan kuboid shaklidagi idishga yarmi to‘lgunicha quyildi. Kub shaklidagi idishda qancha suv qoldi? Javobni santimetr kubda ifodalang.

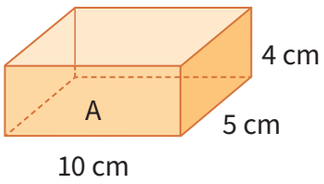


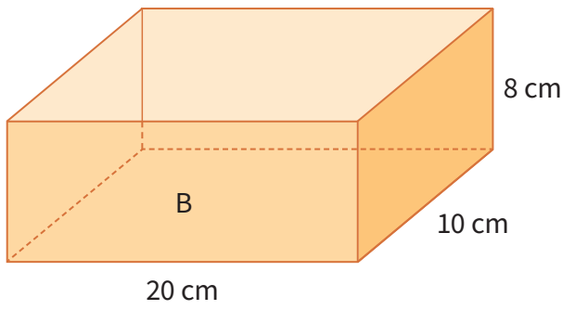
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7 Azimjon kuboid shaklidagi idishni yarmigacha to‘ldirish uchun 880 cm^3 suv quydi. Idishning sig‘imini toping va natijani litrda ifodalang.

8 Olimjonda kuboid shaklidagi ikkita A va B idish bor. A idishning o‘lchamlari: 10 cm, 5 cm, 4 cm. B idishning o‘lchamlari: 20 cm, 10 cm, 8 cm.

Olimjonning fikricha, B idishning sig‘imi A idishning sig‘imidan 2 baravar katta. Uning fikriga qo‘shilasizmi?





Mashq daftariga o‘ting **153–160**

O‘zingizni tekshiring



a) Men litr (yoki ml) va santimetr kub (cm^3) o‘rtasidagi bog‘liqlikni bilaman.

b) Men kuboid shaklidagi idishdagi suv hajmini qanday o‘lchashni bilaman.

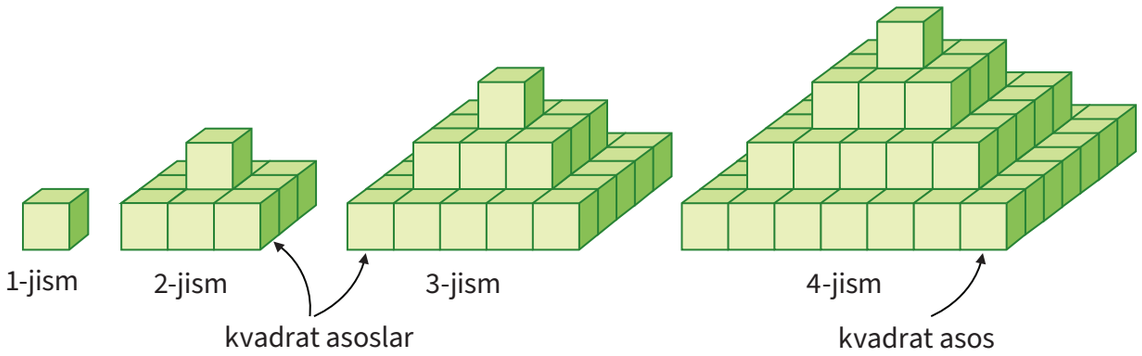
c) Men suyuqliklar hajmi va sig‘imiga oid masalalarni yechishni bilaman.

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O‘ylab ko‘ring



Jasurbek quyida ko‘rsatilgan shakldagi jismlarni yasash uchun qirrasi 1 cm bo‘lgan kublardan foydalandi. 1-jismda bitta kub joylashgan. 2-jismda kvadrat asos hosil qilish uchun yangi kublar qo‘shilgan. 3-jismda yanada kattaroq kvadrat asos hosil qilish uchun yana bitta qatlam qo‘shilgan. Agar Jasurbek shu usulda qatlamlarni qo‘shishda davom etsa, 6-jismning hajmi qancha bo‘ladi?



Qirrasi 1 cm bo‘lgan kublardan iborat har bir qatlam hajmini toping. Jadval tuzing va qonuniyatni aniqlang.



Mashq daftariga o‘ting **161–164**

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6 Nisbatlar

Muhokama qiling



Bolalar bayram saylida

Nisbat tushunchasi

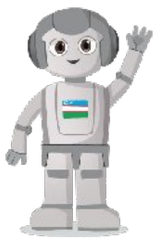
Qarang va o‘rganing



1 Quyida to‘rtta ko‘k va bitta qizil kepka tasvirlangan.



Ko‘k kepkalar sonining qizil kepkalar soniga nisbati 4 : 1 ga teng.



Biz 4 : 1 ni “4 ga 1” deb o‘qiymiz.

2 Quyida 2 ta qalam va 3 ta ruchka berilgan.



Qalamlar sonining ruchkalar soniga nisbati 2 : 3.



Ruchkalar sonining qalamlar soniga nisbati 3 : 2 deyishimiz ham mumkin.

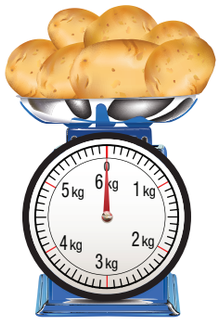
Nisbatlarda o‘lchov birliklari ko‘rsatilmaydi.

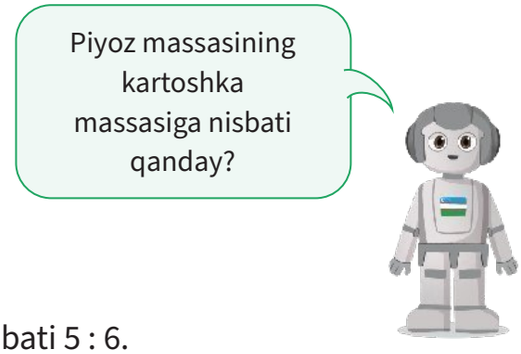


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3 5 kg piyoz va 6 kg kartoshka bor.







Piyoz massasining kartoshka massasiga nisbati 5 : 6.

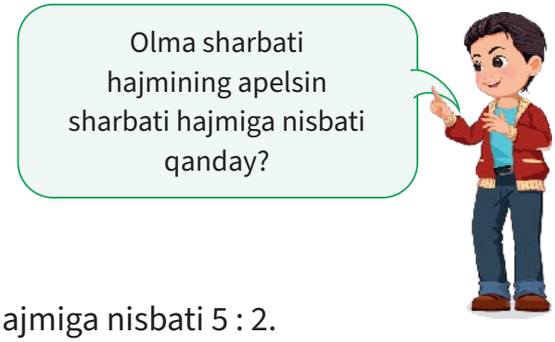
4 5 ℓ olma sharbati va 2 ℓ apelsin sharbati bor.



olma sharbati

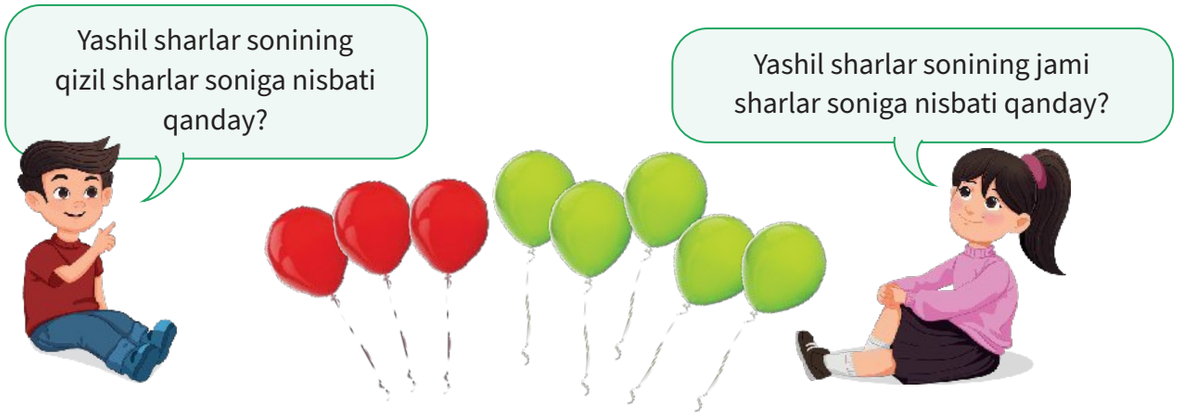


apelsin sharbati



Olma sharbati hajmining apelsin sharbati hajmiga nisbati 5 : 2.

5 Akmalda 3 ta qizil va 5 ta yashil, jami 8 ta shar bor.



Qizil sharlar sonining yashil sharlar soniga nisbati 3 : 5.

Qizil sharlar sonining jami sharlar soniga nisbati 3 : 8.

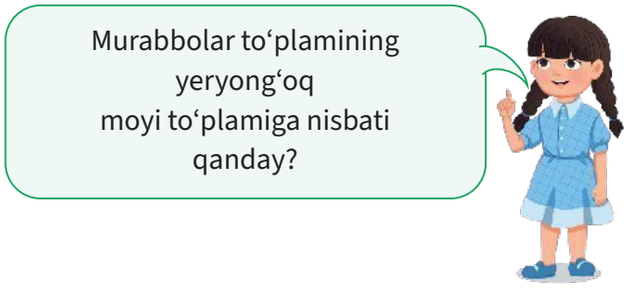
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 141 09/08/24 19:32

6 Yeryong‘oq moyi to‘plamining murabbolar to‘plamiga nisbati 3 : 2.

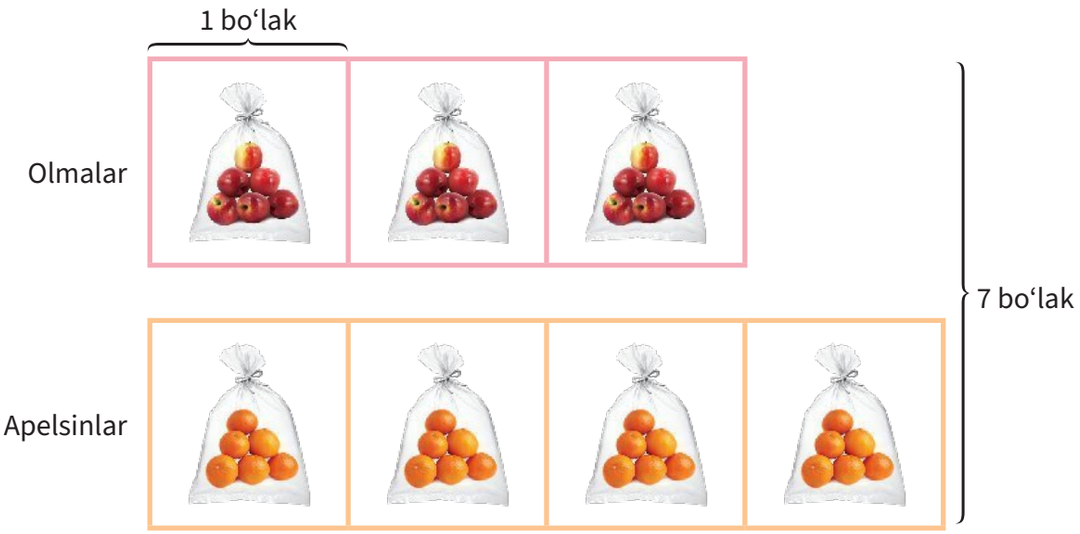


Yeryong‘oq moyi

Murabbo

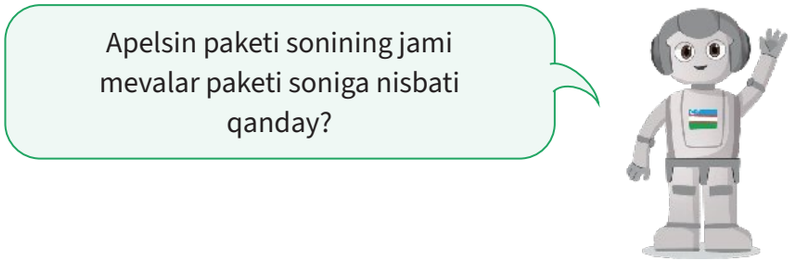


7 Paketlarga bir xil miqdordagi mevalar solingan. 3 paket olma va 4 paket apelsin bor.



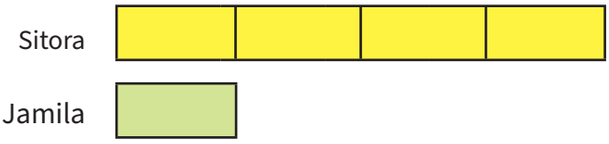
Olma paketi sonining apelsin paketi soniga nisbati 3 : 4.

Olma paketi sonining jami mevalar paketi soniga nisbati 3 : 7.



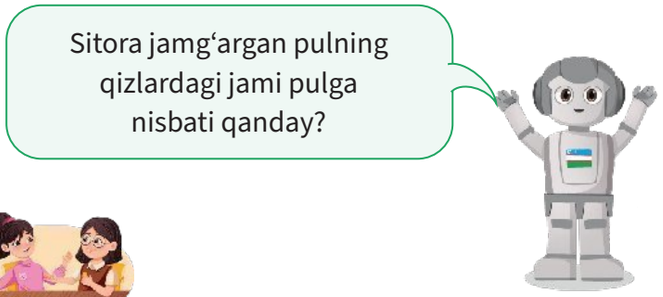
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 142 09/08/24 19:32

8 Sitora Jamilaga qaraganda 4 marta ko‘p pul jamg‘ardi.



a) Sitora jamg‘argan pulning Jamilaning puliga nisbati qanday?
Sitora jamg‘argan pulning Jamilaning puliga nisbati 4 : 1.

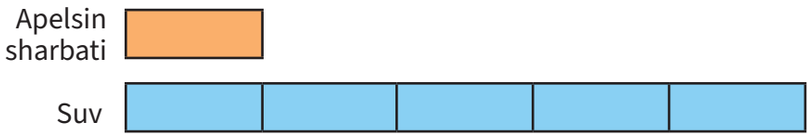
b) Jamila jamg‘argan pulning qizlardagi jami pulga nisbati qanday?
Jamila jamg‘argan pulning qizlardagi jami pulga nisbati 1 : 5.



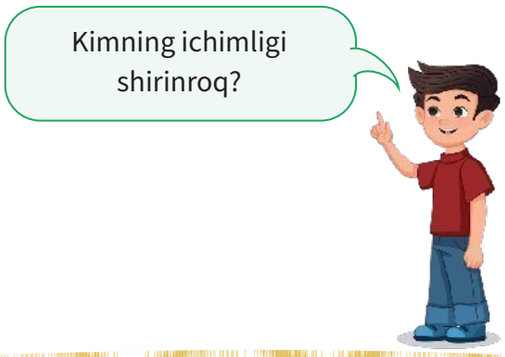
Juftlikda ishlang

Juftlikda muhokama qiling.

a) Komila ichimlik tayyorlash uchun 1 piyola apelsin sharbatiga 5 piyola suv aralashtirdi. Apelsin sharbati miqdorining suv miqdoriga nisbati qanday?



b) Jamila ichimlik tayyorlash uchun 2 piyola apelsin sharbatiga 5 piyola suv aralashtirdi. Apelsin sharbati miqdorining suv miqdoriga nisbati qanday?

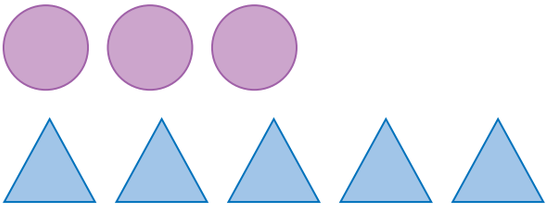


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Bajaring va o‘rganing



1 Quyida 3 ta doira va 5 ta uchburchak berilgan.
Doiralar sonining uchburchaklar soniga nisbati ☐ : ☐.



2 Quyida 10 ta mol go‘shtili va 7 ta tovuq go‘shtili burger tasvirlangan.



a) Tovuq go‘shtili burgerlarning mol go‘shtili burgerlar soniga nisbati
☐ : ☐.

b) Mol go‘shtili burgerlarning tovuq go‘shtili burgerlar soniga nisbati
☐ : ☐.

3 Quyida 4 ta yashil va 5 ta qizil tugma berilgan.



a) Yashil tugmalar sonining qizil tugmalar soniga nisbati
☐ : ☐.

b) Qizil tugmalar sonining yashil tugmalar soniga nisbati
☐ : ☐.

c) Qizil tugmalar sonining jami tugmalar soniga nisbati
☐ : ☐.

29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 144 09/08/24 19:32

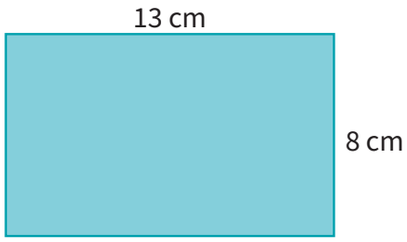
4 Qutilarga ikkitadan meva solindi.

Noklar 

Olmalar 

Nok qutilari sonining olma qutilari soniga nisbati ____ : ____.

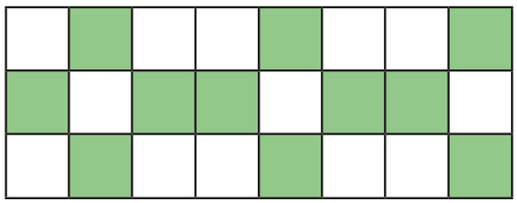
5 To‘g‘ri to‘rtburchakning bo‘yi 13 cm, eni 8 cm.



a) To‘g‘ri to‘rtburchak bo‘yining eniga nisbati ____ : ____.

b) To‘g‘ri to‘rtburchak bo‘yining perimetriga nisbati ____ : ____.

6 Jamila kataklarning ba’zilarini rasmdagidek bo‘yadi.



a) Yashil kataklar sonining oq kataklar soniga nisbati
____ : ____.

b) Oq kataklar sonining jami kataklar soniga nisbati
____ : ____.

c) Jami kataklar sonining yashil kataklar soniga nisbati
____ : ____.

Mashq daftariga o‘ting **165–168**

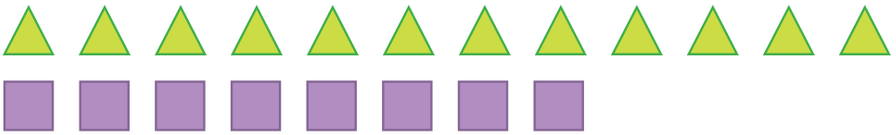
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 145 09/08/24 19:32

Teng kuchli nisbatlar

Qarang va o‘rganing

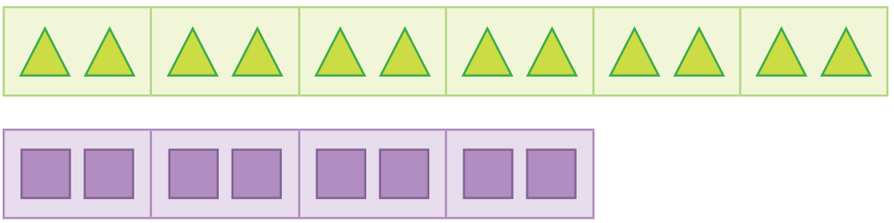
Teng kuchli nisbatlarni aniqlash va qisqarmas ko‘rinishda yozish

1 a) Quyida 12 ta uchburchak va 8 ta kvadrat berilgan.



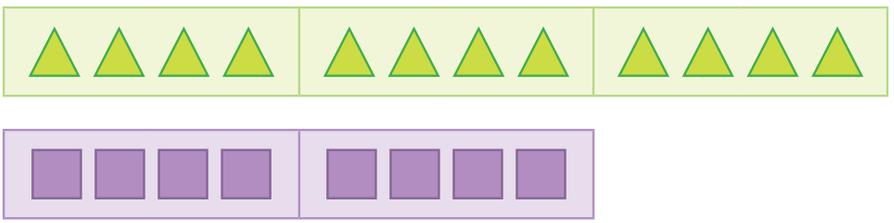
Uchburchaklar sonining kvadratlar soniga nisbati 12 : 8.

b) Uchburchak va kvadratlarni ikkitadan qilib guruhlarga ajrating.



Uchburchaklar guruhi sonining kvadratlar guruhi soniga nisbati 6 : 4.

c) Uchburchak va kvadratlarni to‘rttadan qilib guruhlarga ajrating.



Uchburchaklar guruhi sonining kvadratlar guruhi soniga nisbati 3 : 2.

12 : 8, 6 : 4 va 3 : 2 **teng kuchli nisbatlardir.**
12 : 8 = 6 : 4 = 3 : 2.
12 : 8 nisbatning **qisqarmas shakli** 3 : 2 bo‘ladi.



Qaysi nisbat uchburchak va kvadratlarning sonini taqqoslayapti?

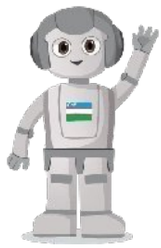
12 : 8 nisbat 3 : 2 nisbatga o‘zgartirildi. Uchburchak va kvadratlar soni o‘zgardimi?



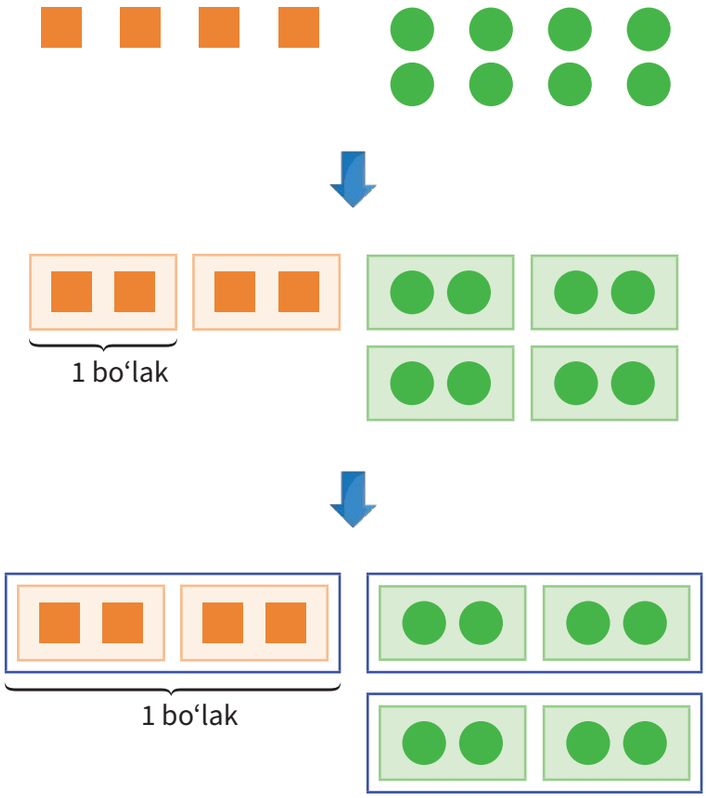
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 146 09/08/24 19:32

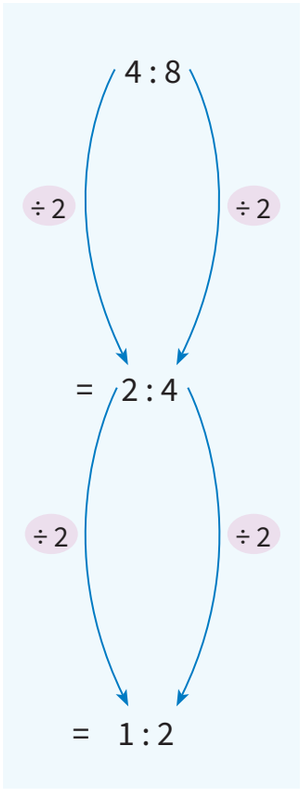
2 Quyida 4 ta kvadrat va 8 ta doira berilgan. 4 : 8 ga teng kuchli nisbatlarni toping.

Nisbatni uning hadlari (sonlari)ni umumiy bo‘luvchiga bo‘lish orqali qisqarmas ko‘rinishga keltirish mumkin.



a) 4 : 8 nisbatning hadlarini umumiy bo‘luvchiga bo‘lish orqali teng kuchli nisbatlarni hosil qiling.





4 : 8 = 2 : 4 = 1 : 2

Demak, 4 : 8, 2 : 4 va 1 : 2 nisbatlar teng kuchli nisbatlardir.



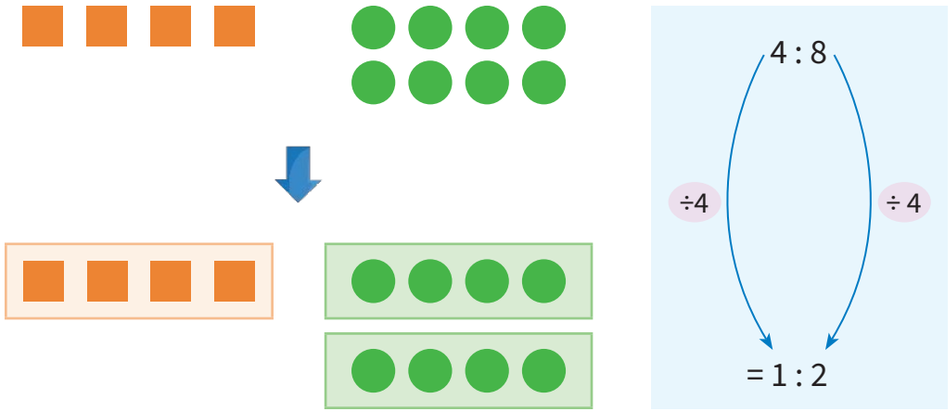
4 : 8 nisbatdagi 4 va 8 ni umumiy bo‘luvchi 2 ga bo‘lish orqali 2 : 4 teng kuchli nisbatni topish mumkin.

2 : 4 nisbatdagi 2 va 4 ni umumiy bo‘luvchi 2 ga bo‘lishimiz mumkin. Demak, 2 : 4 nisbat 4 : 8 nisbatning qisqarmas shakli emas.



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b) 4 : 8 nisbatdagi 4 va 8 ni umumiy bo‘luvchi 4 ga bo‘lish orqali nisbatni qisqarmas ko‘rinishga keltiring.

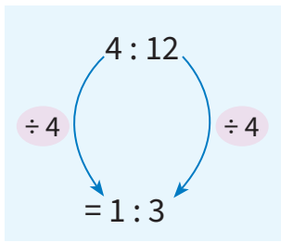


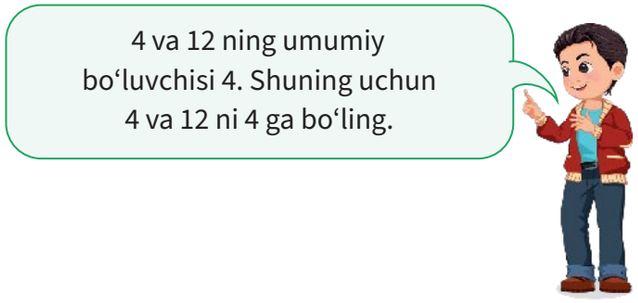
4 : 8 = 1 : 2

4 : 8 nisbatning qisqarmas shakli **1 : 2** nisbatdir.

3 Quyidagi nisbatlarni qisqarmas shaklda ifodalang.

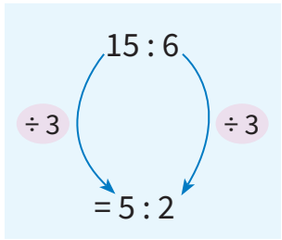
a) 4 : 12

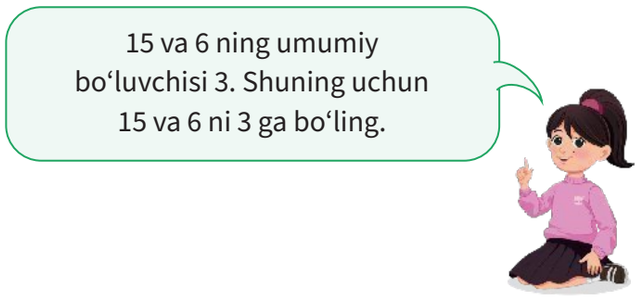




4 : 12 nisbatning qisqarmas shakli **1 : 3** nisbatdir.

b) 15 : 6





15 : 6 nisbatning qisqarmas shakli **5 : 2** nisbatdir.

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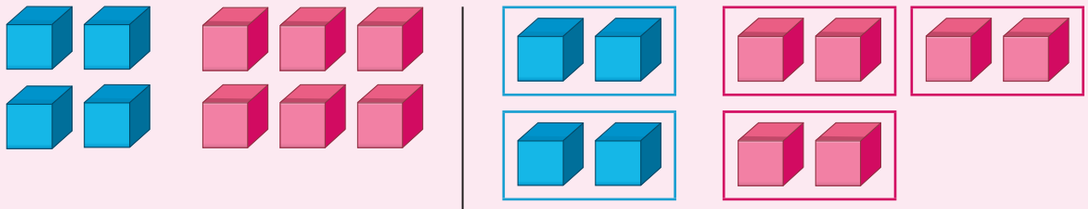
Qo‘lda bajariladigan mashq



Guruh bo‘lib ishlang.
Teng kuchli nisbatlarni hosil qilish uchun kublarni ikki xil rangdagi guruhlarga ajrating. Har bitta nisbatning qisqarmas shaklini toping.

a) 6 ta qizil, 12 ta ko‘k kub
b) 4 ta sariq, 20 ta yashil kub
c) 15 ta qizil, 20 ta yashil kub

Misol



4 : 6

2 : 3

Qiziqarli matematika

O‘rganing va bo‘lishing



Guruh bo‘lib ishlang.
Sinfxonadagi turli buyumlar sonini taqqoslang va ularning nisbatini ayting. Nisbatni qisqarmas shaklda qanday ifodalaganingizni sinfdoshlaringiz bilan o‘rtoqlashing.

Misol

Chizg‘ichlar sonining o‘chirg‘ichlar soniga nisbati 40 : 25.

40 : 25 = 8 : 5

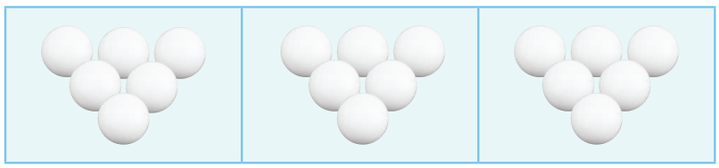
40 : 25 nisbatning qisqarmas shakli **8 : 5** nisbat hisoblanadi.

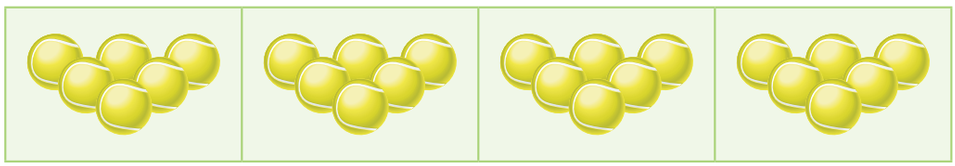
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 149 09/08/24 19:32

Juftlikda ishlang



Juftlikda muhokama qiling.
Stol tennisi va tennis koptoklarining sonini taqqoslash uchun ikki xil nisbatni yozing.





Bajaring va o‘rganing



1 Berilgan nisbatlarni qisqarmas shaklda ifodalang.



a) 2000 so‘mlik qog‘oz pullar sonining 1000 so‘mlik tangalar soniga nisbati qanday?
b) 5000 so‘mlik qog‘oz pullar sonining 2000 so‘mlik qog‘oz pullar soniga nisbati qanday?

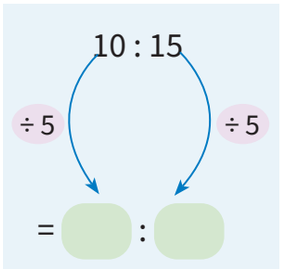
2 Quyida 8 ta ko‘k, 16 ta qizil shar berilgan.
Ko‘k sharlar sonining qizil sharlar soniga nisbatini qaysi teng kuchli nisbatlar ifodalaydi?
Nisbatning qisqarmas shakli qanday bo‘ladi?



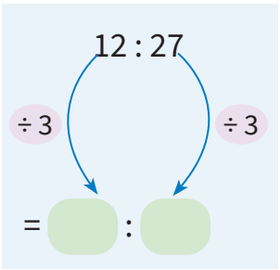
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 150 09/08/24 19:33

3 Teng kuchli nisbatlarni toping.

a)



b)



4 Nisbatlarni qisqarmas shaklda yozing.

a) 10 : 5 b) 15 : 18 c) 24 : 36

d) 15 : 5 e) 24 : 18 f) 16 : 10

5 5-“A” sinfda 22 nafar qiz va 18 nafar o‘g‘il bola o‘qiydi. O‘g‘il bolalar sonining qizlar soniga nisbatini qisqarmas shaklga ifodalang.

6 Azizning 100 ta, Rahimning esa 250 ta markasi bor. Azizdagi markalar sonining Rahimdagi markalar soniga nisbati qanday? Ushbu nisbatni qisqarmas shaklda ifodalang.

Mashq daftariga o‘ting **169–174**

O‘zingizni tekshiring



a) Men nisbatlarni qanday yozishni bilaman.

b) Men teng kuchli nisbatlarni qanday topishni bilaman.

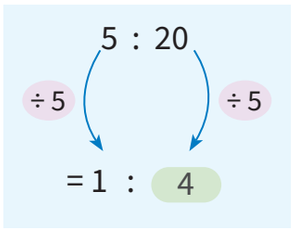
c) Men nisbatni qisqarmas shaklda ifodalashni bilaman.

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Qarang va o‘rganing

Teng kuchli nisbatlardagi noma’lum hadni topish

1 5 : 20 = 1 : **?**



5 : 20 = 1 : **4**

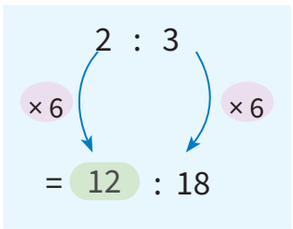
Teng kuchli kasrlardagi tushirib qoldirilgan hadni topish usulini eslang.

$$\frac{5}{20} \overset{\div 5}{=} \frac{1}{\square} \quad (\div 5)$$

Noma’lum had: 4.



2 2 : 3 = **?** : 18

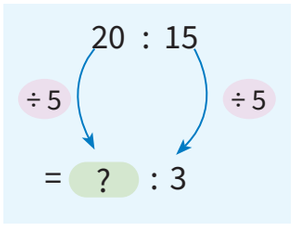


2 : 3 = **12** : 18

Har ikki sonni 6 ga ko‘paytiring. Noma’lum had 12 ekan.



3 **?** : 3 = 20 : 15



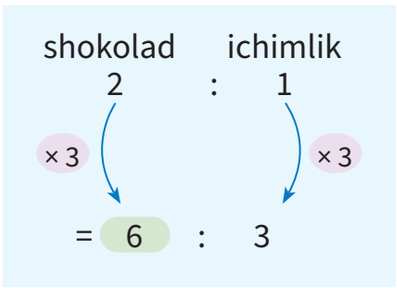
Har ikki sonni 5 ga bo‘lib, noma’lum hadni toping.



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4 Ichida 2 ta shokolad va 1 ta ichimlik bo‘lgan paketlar bor. Rahim, Aziz va Jamila turli xil miqdordagi paketlarni oldi.

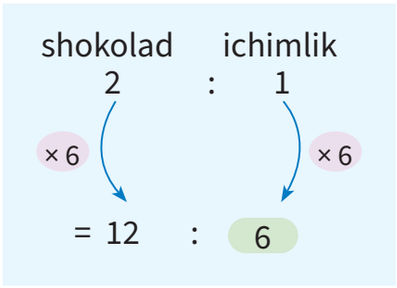
a) Rahim 3 ta ichimlik olgan.
U nechta shokolad olgan?





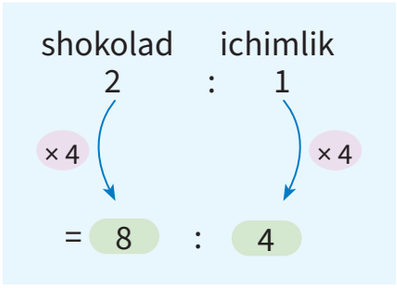
Rahim 6 ta shokolad olgan.

b) Jamila 12 ta shokolad oldi.
U nechta ichimlik olgan?



Jamila 6 ta ichimlik olgan.

c) Aziz 4 ta paket oldi.
U nechta shokolad va ichimlik olgan?



Aziz 8 ta shokolad va 4 ta ichimlik olgan.

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Juftlikda ishlang



Muhokama qiling.

1 Berilgan teng kuchli kasrlardagi tushirib qoldirilgan sonni toping.
Bu usul teng kuchli nisbatlardagi noma'lum hadni topishga o'xshashmi?

a) $\frac{4}{20} = \frac{1}{\square}$ b) $\frac{2}{9} = \frac{\square}{18}$ c) $\frac{3}{4} = \frac{12}{\square}$

2 Quyidagi kasr va nisbatlardagi noma'lum hadni toping.
Kasr va nisbatlardagi noma'lum hadni topish usuli bir xilmi?

a) $\frac{1}{4} = \frac{\square}{24}$, $1 : 4 = \square : 24$ b) $\frac{7}{21} = \frac{1}{\square}$, $7 : 21 = 1 : \square$

Turmushda matematika

1 Qandolatchi bitta tort pishirish uchun har 5 piyola unga 2 bo'lak sariyog' qo'shadi.



3 ta tort tayyorlash uchun qancha un va sariyog' kerak bo'ladi?

2 Sinfingizga dars o'tadigan o'qituvchilar sonining o'quvchilar soniga nisbati qanday?

Bajaring va o'rganing



Noma'lum hadni toping.

a) $2 : 7 = \square : 28$ b) $\square : 5 = 10 : 25$ c) $4 : 9 = 20 : \square$

d) $3 : \square = 18 : 48$ e) $6 : \square = 24 : 40$ f) $5 : 4 = 35 : \square$

O'zingizni tekshiring



Mashq daftariga o'ting 175–178

Men teng kuchli nisbatlardagi noma'lum hadni topishni bilaman.

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Berilgan miqdor va nisbatga ko‘ra boshqa miqdorni topish

Qarang va o‘rganing

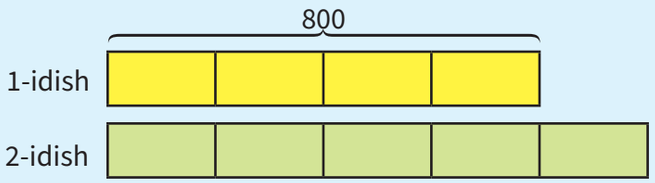


1 Birinchi idishdagi suv hajmining ikkinchi idishdagi suv hajmiga nisbati 4 : 5 ga teng. Agar birinchi idishda 800 ml suv bo‘lsa, ikkinchi idishdagi suv hajmi necha millilitrga teng?

1-usul

1-idish : 2-idish
4 : 5
× 200 × 200
800 : 1000

2-usul



4 bo‘lak = 800 ml
1 bo‘lak = 800 ÷ 4
= 200 ml
5 bo‘lak = 5 × 200
= 1000 ml

Ikkinchi idishdagi suv hajmi 1000 ml.

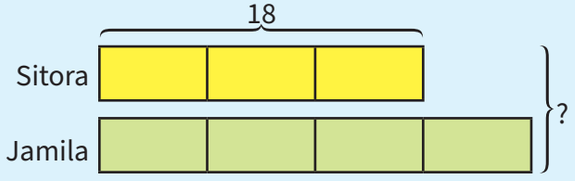
2 Sitoradagi markaning Jamiladagi markaga nisbati 3 : 4. Sitorada 18 ta marka bo‘lsa, ikkala qizda jami nechta marka bor?

1-usul

Sitoradagi marka : Jamiladagi marka
3 : 4
× 6 × 6
18 : 24

18 + 24 = 42 marka

2-usul



3 bo‘lak = 18 ta marka
1 bo‘lak = 18 ÷ 3
= 6 ta marka
7 bo‘lak = 7 × 6
= 42 ta marka

Ikkalalarida 42 ta marka bor.

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Juftlikda ishlang



Muhokama qiling.
Quyidagi jadvalda Azizadagi pulning Salimadagi pulga bo‘lgan turli nisbatlari berilgan. Nisbatlar asosida tushirib qoldirilgan miqdorlarni toping.

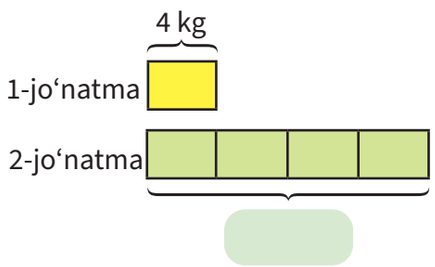
Azizaning puli : Salimaning puli	Azizaning puli	Salimaning puli	Pulning umumiy miqdori
1 : 3		15 000 so‘m	20 000 so‘m
3 : 5	7500 so‘m		
5 : 7		2520 so‘m	

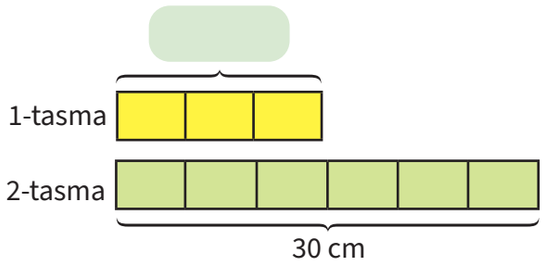
Bajaring va o‘rganing



1 Noma’lum miqdor (qiymat)ni toping.

a) Birinchi jo‘natma massasining ikkinchi jo‘natma massasiga nisbati 1 : 4 ga teng.
b) Birinchi tasma uzunligining ikkinchi tasma uzunligiga nisbati 3 : 6 ga teng.





2 Adham va Bahrom tog‘asi bergan pulni bo‘lishib oldi. Adham olgan pulning Bahrom olgan pulga nisbati 4 : 5. Agar Bahrom 4000 so‘m olgan bo‘lsa, Adham qancha pul olgan?

3 Maktabdagi o‘g‘il bolalar sonining qiz bolalar soniga nisbati 5 : 7. Agar maktabda 455 nafar qiz bola bor bo‘lsa, o‘g‘il bolalar sonini toping.

O‘zingizni tekshiring



Mashq daftariga o‘ting 179–180

Men miqdorning berilgan nisbatdagi qismlarini topishni bilaman.

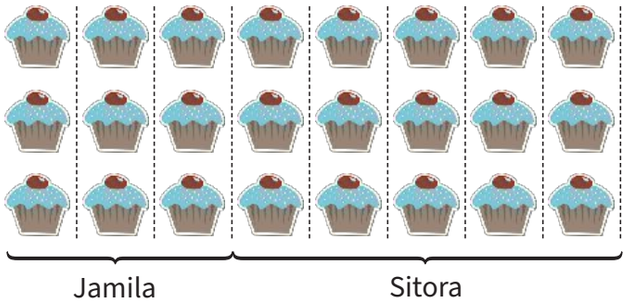
29 MATEMATICS SCHOOLBOOK G5 P1 UZB 220x290 180PG.indd 156 09/08/24 19:33

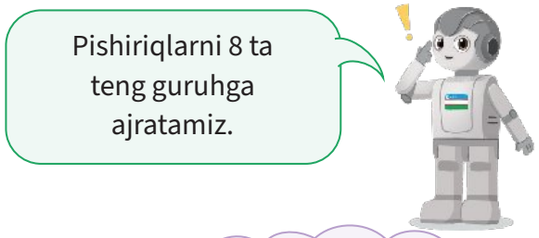
Berilgan jami miqdor va nisbatga ko‘ra uning qismlarini topish

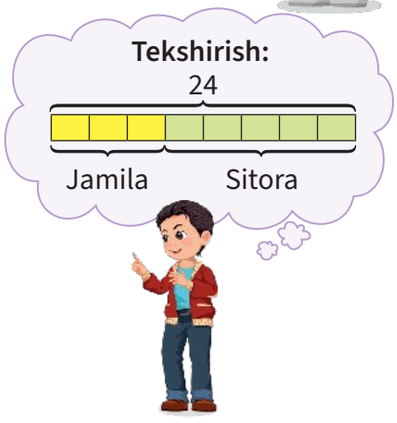
Qarang va o‘rganing



1 Jamila va Sitora 24 ta pishiriqni 3 : 5 nisbatda bo‘lishib oldi. Qizlar nechtadan pishiriq oldi?







Jamila 9 ta, Sitora esa 15 ta pishiriq oldi.

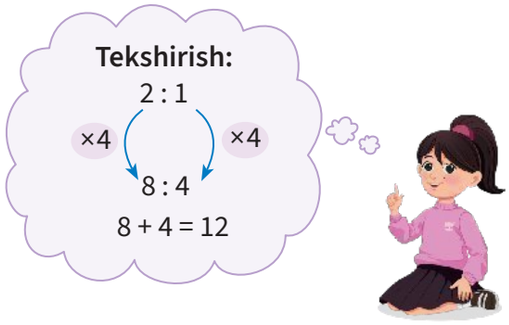
2 Lobar opa 12 ta olmani 2 : 1 nisbatda ikkita xaltaga soldi. Har bir xaltada nechta olma bor?



Jami 3 ta bo‘lak berilgan.

3 bo‘lak = 12
1 bo‘lak = 12 ÷ 3
= 4

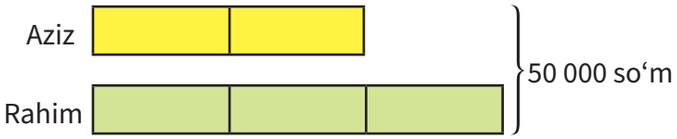
2 bo‘lak = 2 × 4
= 8



Birinchi xaltada 8 ta, ikkinchi xaltada 4 ta olma bor.

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3 Aziz va Rahim 50 000 so‘m pulni bo‘lib oldi. Aziz olgan pulning Rahim olgan pulga nisbati 2 : 3. Rahim qancha pul olgan?

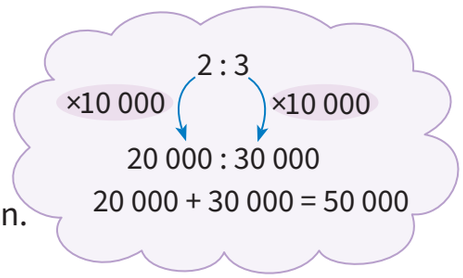


5 bo‘lak = 50 000 so‘m

1 bo‘lak = 50 000 ÷ 5
= 10 000 so‘m

3 bo‘lak = 3 × 10 000
= 30 000 so‘m

Rahim 30 000 so‘m olgan.





Juftlikda ishlang



Muhokama qiling.
Quyidagi jadvalda 12 000 so‘m Hamida va Salima o‘rtasida qanday nisbatda bo‘lib olingani ko‘rsatilgan. Nisbatlar asosida qizlar olgan pul miqdorini toping.

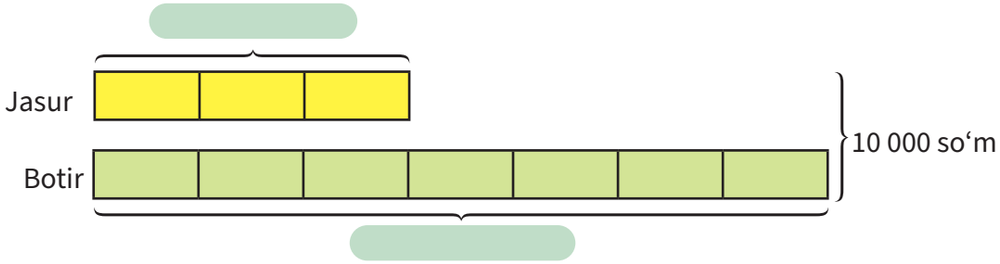
Jami pul	Hamidaning puli : Salimaning puli	Hamidaning puli	Salimaning puli
12 000 so‘m	1 : 2		
12 000 so‘m	3 : 2		
12 000 so‘m	5 : 3		

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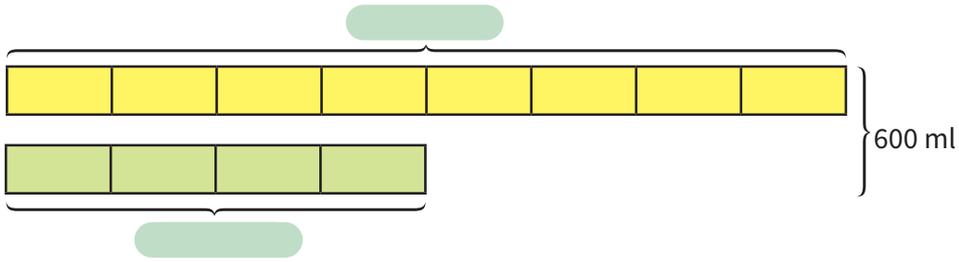
Bajaring va o‘rganing



1 a) 10 000 so‘mni 3 : 7 nisbatda Jasur va Botir o‘rtasida bo‘ling. Har bir bola oladigan pul miqdorini toping.



b) 600 ml apelsin sharbatini 8 : 4 nisbatda bo‘ling va har birining hajmini toping.



2 5-sinfda 90 nafar o‘quvchi bo‘lib, o‘g‘il bolalar sonining qiz bolalar soniga nisbati 3 : 7.

a) O‘g‘il bolalar soni nechta?
b) Qiz bolalar soni nechta?

3 Do‘konda jami 156 ta sutli va shokoladli pechenye bor.
Sutli pechenyelar sonining shokoladli pechenyelar soniga nisbati 8 : 5.
Do‘konda nechta sutli pechenye bor?

Mashq daftariga o‘ting **181–182**

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Ikkita miqdorning nisbatiga doir matnli masalalar

Qarang va o‘rganing



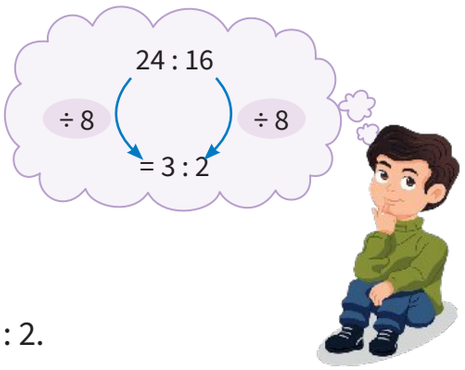
1 Katakdagi tovuq va o‘rdaklar soni 40 ta. Ulardan 16 tasi – o‘rdak.

a) Tovuqlar soni nechta?

b) Tovuqlar sonining o‘rdaklar soniga nisbatini toping.
Nisbatni qisqarmas shaklda yozing.

a) $40 - 16 = 24$

24 ta tovuq bor.



b)

Tovuqlar soni	:	O‘rdaklar soni
= 24	:	16
= 3	:	2

Tovuqlar sonining o‘rdaklar soniga nisbati 3 : 2.

2 12 ta ko‘k va 18 ta qizil qalam bor.

a) Ko‘k qalamlar sonining qizil qalamlar soniga nisbatini toping.

b) Qizil qalamlar sonining jami qalamlar soniga nisbatini toping.

a)

Ko‘k qalamlar soni	:	Qizil qalamlar soni
= 12	:	18
= 2	:	3

Ko‘k qalamlar sonining qizil qalamlar soniga nisbati 2 : 3.

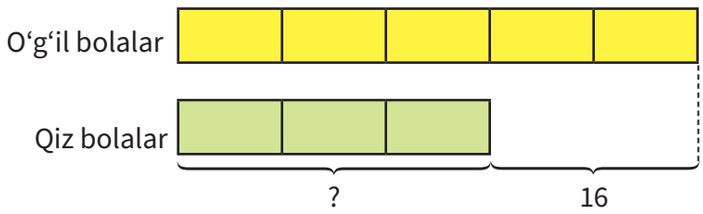
b)

Qizil qalamlar soni	:	Jami qalamlar soni
= 18	:	30
= 3	:	5

Qizil qalamlar sonining jami qalamlar soniga nisbati 3 : 5.

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3 Maktab faollar zalida bir qancha bola bor. Zaldagi o‘g‘il bolalar soni qiz bolalar sonidan 16 nafarga ko‘p va ularning o‘zaro nisbati 5 : 3. Faollar zalida necha nafar qiz bola bor?

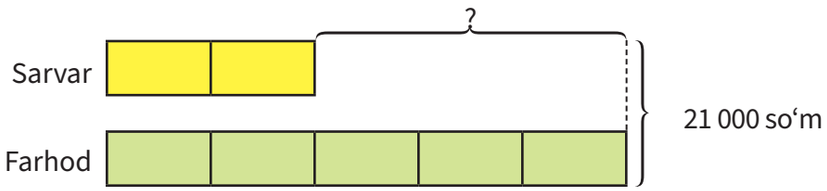


2 bo‘lak = 16

1 bo‘lak = 16 ÷ 2
= 8
3 bo‘lak = 3 × 8
= 24

Maktab faollar zalida 24 nafar qiz bola bor.

4 Sarvar va Farhod 21 000 so‘mni 2 : 5 nisbatda bo‘lib oldi. Sarvar Farhoddan qancha kam pul olgan?



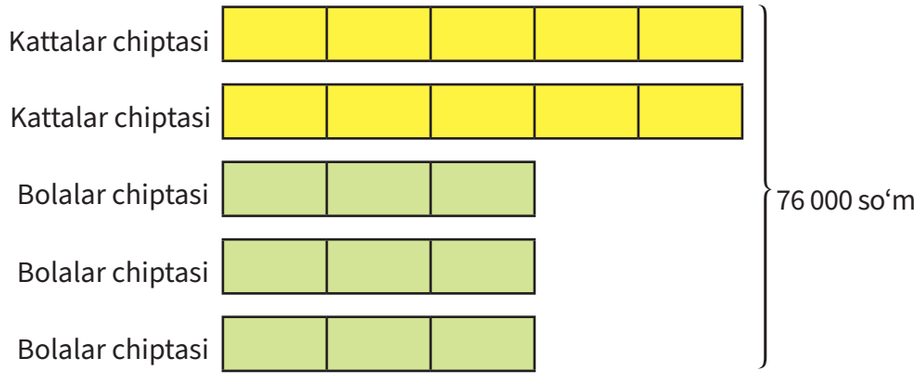
7 bo‘lak = 21 000 so‘m

1 bo‘lak = 21 000 ÷ 7
= 3000 so‘m
3 bo‘lak = 3 × 3000
= 9000 so‘m

Sarvar Farhoddan 9000 so‘m kam olgan.

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5 Uch nafar bola ota-onasi bilan konsertga bordi. Kattalar chiptasi narxining bolalar chiptasi narxiga nisbati 5 : 3. Ota barcha chiptalar uchun 76 000 so‘m to‘lagan bo‘lsa, kattalar chiptasining narxini toping.



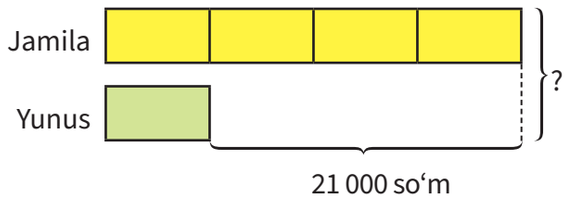
19 bo‘lak = 76 000 so‘m

1 bo‘lak = 76 000 ÷ 19 = 4000 so‘m
5 bo‘lak = 5 × 4000 = 20 000 so‘m

Kattalar chiptasining narxi 20 000 so‘m.

6 Jamilada Yunusdan to‘rt marta ko‘p pul bor. Jamilada Yunusning pulidan 21 000 so‘m ko‘p pul bor.

a) Jamiladagi pulning Yunusdagi pulga nisbati qanday?
b) Ularning ikkalasida qancha pul bor?



a) Jamiladagi pul miqdorining Yunusdagi pul miqdoriga nisbati 4 : 1.

b) 3 bo‘lak = 21 000 so‘m

1 bo‘lak = 21 000 ÷ 3 = 7000 so‘m

5 bo‘lak = 5 × 7000 = 35 000 so‘m

Ularning ikkalasida 35 000 so‘m pul bor.

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Juftlikda ishlang



Matnli masalalarni birgalikda yeching.

1. Guldastada 15 ta atirgul va 12 ta lola bor. Guldastadagi atirgullar sonining lolalar soniga nisbatini toping va qisqarmas shaklda ifodalang.

2. 5 ℓ suvga 2 ℓ sharbat qo‘shib, ichimlik tayyorlanadi. Shunday ichimlik tayyorlash uchun 40 ℓ suvga qancha sharbat qo‘shish kerak?

3. Maktabda 160 nafar o‘g‘il bola bor. Ular sonining qiz bolalar soniga nisbati 2 : 3.
   a) Qiz bolalar necha nafar?
   b) Maktabda necha nafar o‘quvchi bor?

4. Ota yoshining o‘g‘li yoshiga nisbati 7 : 3. O‘g‘il otasidan 24 yoshga kichik. Otaning yoshini toping.

Bajaring va o‘rganing



Matnli masalalarni yeching.

1. Bayram tadbiridagi o‘g‘il bolalar sonining qiz bolalar soniga nisbati 3 : 2. Tadbirda jami 125 nafar bola ishtirok etmoqda. Tadbirdagi qiz bolalar sonini toping.

2. 15 ta shar 1 : 4 nisbatda ikkita qutiga solindi. Har bir qutidagi sharlar sonini toping.

3. Mahmud yoshining Anvar yoshiga nisbati 3 : 5. Anvar Mahmuddan 14 yosh katta. Mahmud necha yoshda?

4. Aziz va Rahim tog‘asi bergan pulni 4 : 7 nisbatda bo‘lishib oldi. Rahim Azizdan 6000 so‘m ko‘proq pul oldi. Rahim qancha pul olgan?

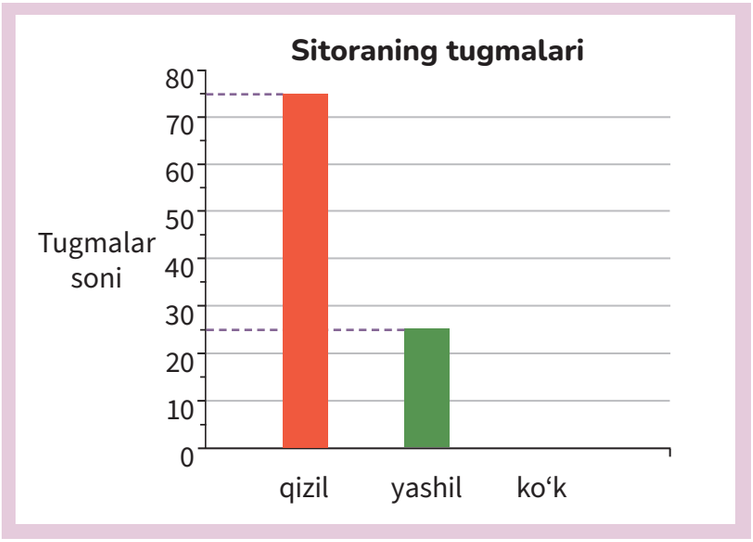
5. 42 cm uzunlikdagi tasma 3 : 4 nisbatda 2 ta bo‘lakka bo‘lindi. Tasmaning uzunroq qismi uzunligini toping.

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6 Sotib olingan har 5 ta ko‘k ruchkaga 2 ta qizil ruchka qo‘shib beriladi. Agar 20 ta ko‘k ruchka sotib olingan bo‘lsa, ...

a) qizil ruchkalar sonining olingan jami ruchkalar soniga nisbati qanday?
b) nechta qizil ruchka qo‘shib berilgan?
c) ko‘k ruchkalar qizil ruchkalardan nechta ko‘p?

7 Sitora o‘zidagi tugmalarning rangini ko‘rsatish uchun ustunli diagramma chizdi. Lekin u ko‘k tugmalar sonini ko‘rsatuvchi ustunni chizishni unutdi.



a) Yashil tugmalar sonining qizil tugmalar soniga nisbati qanday?
b) Yashil tugmalar sonining ko‘k tugmalar soniga nisbati 5 : 7 bo‘lsa, Sitorada nechta ko‘k tugma bor?
c) Qizil tugmalar sonining jami tugmalar soniga nisbati qanday?

8 Farrux amaki va turmush o‘rtog‘i ikki nafar farzandini hayvonot bog‘iga olib bordi. Hayvonot bog‘iga kirish uchun kattalar chiptasi narxining bolalar chiptasi narxiga nisbati 2 : 1.

a) Farrux amaki bitta kattalar chiptasi narxiga nechta bolalar chiptasi sotib olishi mumkin? Javobingizni tushuntiring.
b) Farrux amaki chiptalar uchun jami 96 000 so‘m to‘ladi. Bitta bolalar chiptasining narxi qancha?

O‘zingizni tekshiring



Mashq daftariga o‘ting **183–188**

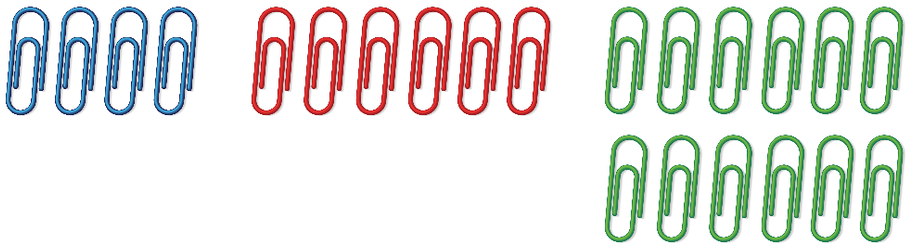
Men ikki miqdor nisbatiga doir masalalarni yecha olaman.

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Uchta miqdorning nisbati

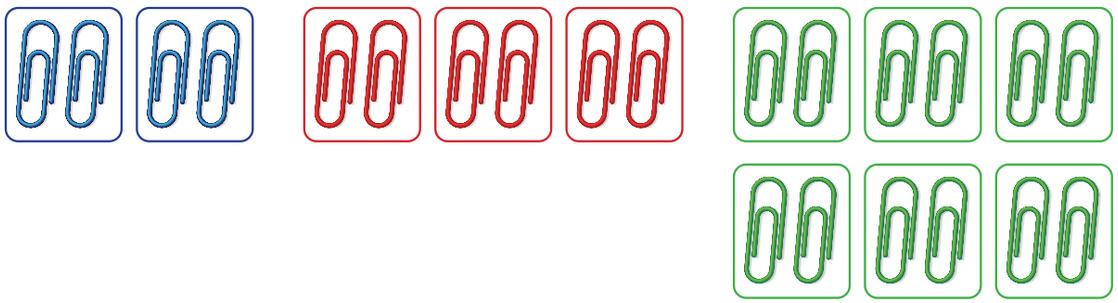
Qarang va o‘rganing

1 a) Quyida 4 ta ko‘k, 6 ta qizil va 12 ta yashil qisqich berilgan.

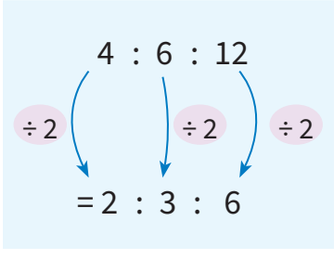


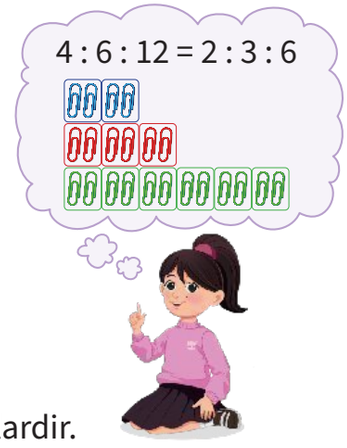
Ko‘k, qizil va yashil qisqichlar sonining nisbati 4 : 6 : 12.

b) 4, 6 va 12 sonlarining umumiy bo‘luvchisi – 2.
Qisqichlarni 2 tadan qilib teng guruhlarga bo‘ling.



2 : 3 : 6 nisbatdagi ko‘k, qizil va yashil qisqichlar guruhi paydo bo‘ldi.





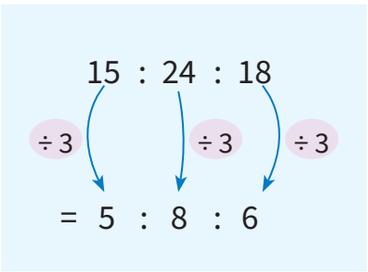
4 : 6 : 12 = 2 : 3 : 6

Demak, 4 : 6 : 12 va 2 : 3 : 6 teng kuchli nisbatlardir.

2 : 3 : 6 nisbat **4 : 6 : 12** nisbatning **qisqarmas shakli** bo‘ladi.

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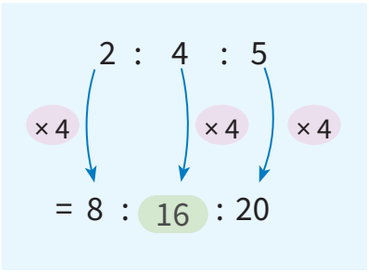
2 15 : 24 : 18 nisbatni qisqarmas shaklda ifodalang.



5 : 8 : 6 nisbat **15 : 24 : 18** nisbatning **qisqarmas** shakli bo‘ladi.

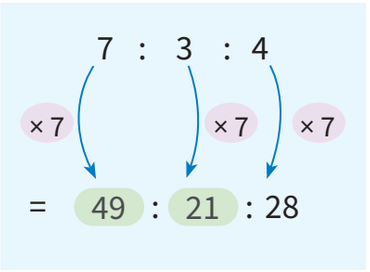
3 Quyidagi teng kuchli nisbatlardagi noma’lum hadni toping.

a) 2 : 4 : 5 = 8 : **?** : 20



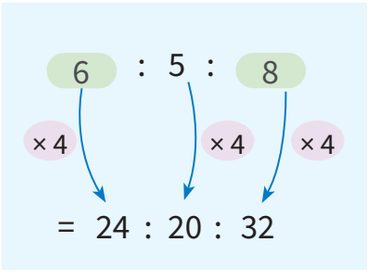
2 : 4 : 5 = 8 : **16** : 20

b) 7 : 3 : 4 = **?** : **?** : 28

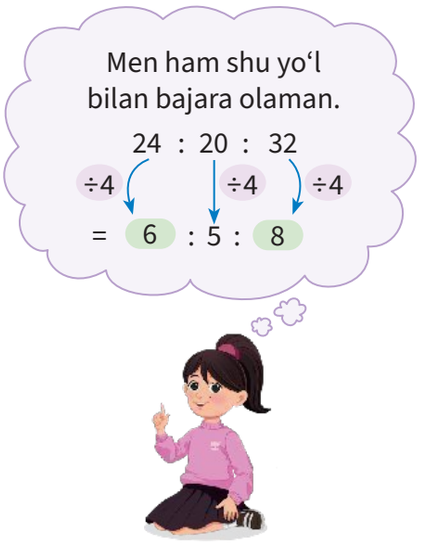


7 : 3 : 4 = **49** : **21** : 28

c) **?** : 5 : **?** = 24 : 20 : 32



6 : 5 : **8** = **24** : 20 : 32



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Bajaring va o‘rganing



1 Nisbatlarni qisqarmas shaklda ifodalang.

a) 4 : 6 : 30

b) 10 : 25 : 40

c) 28 : 16 : 32

d) 12 : 36 : 18

2 Tushirib qoldirilgan sonlarni yozing.

a) 5 : 3 : 4

= ☐ : 18 : 24

b) 8 : 2 : 3

= ☐ : ☐ : 12

c) ☐ : ☐ : 7

= 12 : 20 : 28

d) ☐ : 35 : ☐

= 6 : 5 : 2

e) 8 : 9 : 15 = ☐ : ☐ : 30

f) ☐ : ☐ : 3 = 30 : 20 : 15

g) 4 : 2 : 3 = 32 : ☐ : ☐

h) 8 : ☐ : ☐ = 24 : 27 : 33

Mashq daftariga o‘ting **189–192**

O‘zingizni tekshiring



a) Men 3 ta miqdorning teng kuchli nisbatlaridagi noma’lum hadni topishni bilaman.

b) Men 3 ta miqdor nisbatini qisqarmas shaklda ifodalashni bilaman.

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Uchta miqdorning nisbatiga doir matnli masalalar

Qarang va o‘rganing



1 Sayyora xola o‘g‘lining tug‘ilgan kuni uchun 48 ta xonim, 16 ta somsa va 36 ta manti tayyorladi. Xonimlar sonining somsalar va mantilar soniga nisbati qanday?

	Xonimlar soni	:	Somsalar soni	:	Mantilar soni
=	48	:	16	:	36
=	12	:	4	:	9

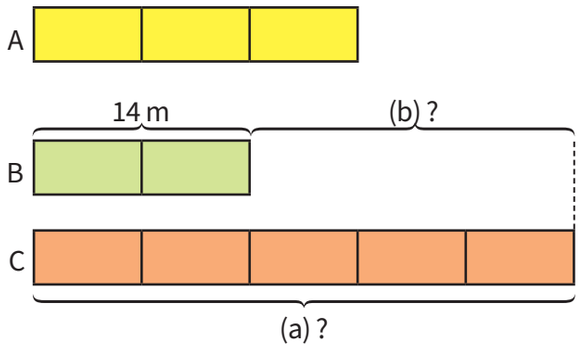
Xonimlar sonining somsalar va mantilar soniga nisbati 12 : 4 : 9.

2 Arqon 3 : 2 : 5 nisbatda uchta A, B va C bo‘laklarga bo‘lindi. Eng qisqa bo‘lakning uzunligi 14 m ga teng.

a) Eng uzun bo‘lakning uzunligini toping.

b) Eng uzun va eng qisqa bo‘laklar bir-biridan qanchaga farq qiladi?

a)



2 bo‘lak = 14 m
1 bo‘lak = 14 ÷ 2
= 7 m
5 bo‘lak = 5 × 7
= 35 m

Eng uzun arqon bo‘lagi 35 m.

b)

1-usul

35 – 14 = 21

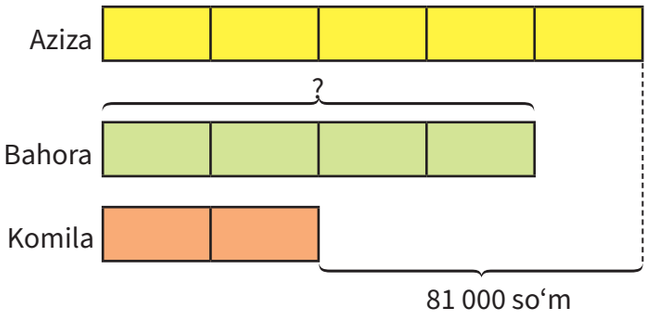
2-usul

5 – 2 = 3
3 bo‘lak = 3 × 7
= 21 m

Eng uzun va eng qisqa bo‘laklar bir-biridan 21 m ga farq qiladi.

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3 Aziza, Bahora va Komila jami pulni 5 : 4 : 2 nisbatda bo‘lib olishdi. Aziza Komiladan 81 000 so‘m ko‘proq pul olgan bo‘lsa, Bahora qancha pul olgan?



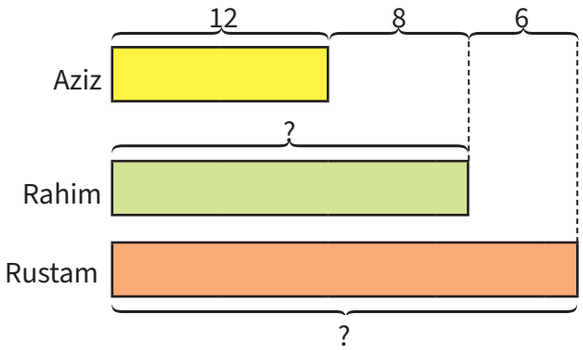
3 bo‘lak = 81 000 so‘m
1 bo‘lak = 81 000 ÷ 3
= 27 000 so‘m
4 bo‘lak = 4 × 27
= 108 000 so‘m

Bahora 108 so‘m olgan.

4 Azizning 12 ta shari bor. Rahimning sharlari Aziznikidan 8 ta ko‘p, Rustamnikidan esa 6 ta kam.

a) Rustamning nechta shari bor?

b) Azizdagi sharlarning Rahim va Rustamning sharlariga nisbatini toping. Nisbatni qisqarmas shaklda ifodalang.



a) 12 + 8 + 6 = 26
Rustamda 26 ta shar bor.

b) 12 + 8 = 20
Rahimning 20 ta shari bor.

	Azizning sharlari	:	Rahimning sharlari	:	Rustamning sharlari
=	12	:	20	:	26
=	6	:	10	:	13

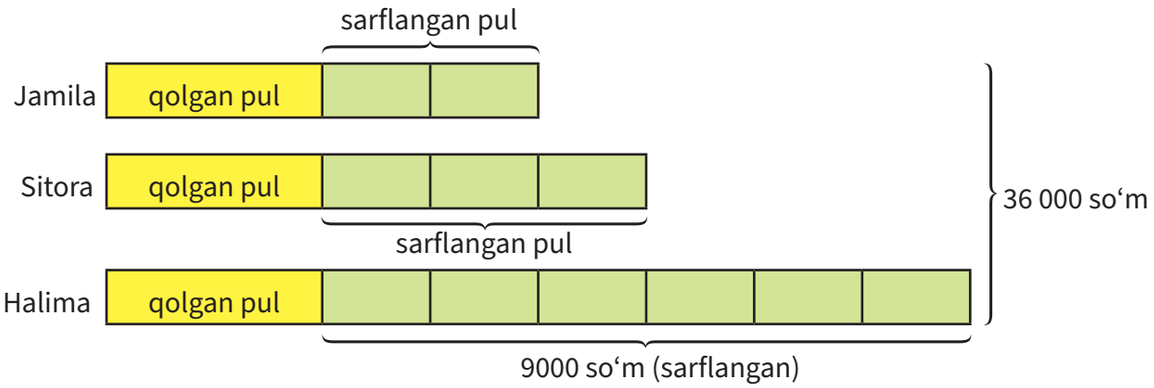
Azizdagi sharlarning Rahim va Rustamning sharlariga nisbati 6 : 10 : 13.

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5 Jamila, Sitora va Halimada jami 36 000 so‘m pul bor. Halima 9000 so‘m pul sarfladi. Jamila sarflagan pullarning Sitora va Halima sarflagan pullarga nisbati 2 : 3 : 6 ga teng. Shundan keyin uchta qizda bir xil miqdorda pul qoldi.

a) Ular jami qancha pul sarflagan?

b) Ularda jami qancha pul qoldi?



a) 6 bo‘lak = 9000 so‘m

1 bo‘lak = 9000 ÷ 6 = 1500 so‘m

11 bo‘lak = 11 × 1500 = 16 500 so‘m

Ular jami 16 500 so‘m sarflagan.

b) 36 000 – 16 500 = 19 500 so‘m

Ularda jami 19 500 so‘m qolgan.

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Bajaring va o‘rganing



Matnli masalalarni yeching.

1. Uchta savatdagi mevalar massasining nisbati 6 : 5 : 4 ga teng. Savatlardagi jami mevalarning massasi 75 kg bo‘lsa, eng og‘ir savatda qancha meva bor?

2. Kinoteatrda 54 nafar katta yoshli kishi bo‘lib, ularning zaldagi o‘g‘il va qiz bolalar soniga nisbati 3 : 4 : 6. Qiz bolalar soni o‘g‘il bolalar sonidan necha nafar ko‘p?

3. Arqon 5 : 2 : 9 nisbatda uchta bo‘lakka bo‘lingan. Eng qisqa bo‘lak uzunligi 18 cm bo‘lsa, arqonning asl uzunligini toping.

4. Uchburchakning tomonlari nisbati 5 : 4 : 7 ga teng. Uchburchakning eng uzun tomoni uzunligi 77 cm bo‘lsa, uning eng qisqa tomoni uzunligini toping.

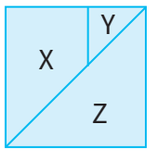
5. Ali, Bahrom va Sarvarning stikerlari soni 4 : 6 : 3 nisbatda. Sarvarda 15 ta stiker bo‘lsa, ularda jami nechta stiker bor?

6. Azizda 80 so‘m, Rahimda undan 50 so‘m ko‘p pul bor. Jasurda Rahimdan 100 so‘m ko‘p pul bo‘lsa, Aziz, Rahim va Jasurdagi pullarning nisbatini toping.

7. Rasmda uchta bo‘lakka bo‘lingan kvadrat ko‘rsatilgan. X qism yuzining Y qism yuziga nisbati 4 : 1.

   a) X qism yuzining Z qism yuziga nisbati qanday? Tushuntiring.

   b) Agar Y qismning yuzi 10 cm^2 ga teng bo‘lsa, kvadrat yuzini toping.



Mashq daftariga o‘ting 193–200

O‘zingizni tekshiring



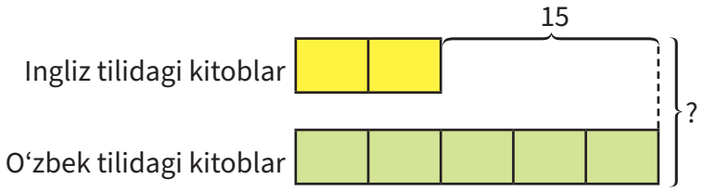
Men uchta miqdor nisbatiga doir masalalarni yecha olaman.

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O‘ylab ko‘ring



Sohibda o‘zbek va ingliz tilidagi kitoblar bor. Ingliz tilidagi kitoblar sonining o‘zbek tilidagi kitoblar soniga nisbati 2 : 5. O‘zbek tilidagi kitoblar ingliz tilidagi kitoblardan 15 ta ko‘p bo‘lsa, Sohibda jami nechta kitob bor?



Mashq daftariga o‘ting **201–204**

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