

- 5 a) Quyidagi sonlarni o'sib borish tartibida yozing.

$$\frac{1}{14}, \frac{1}{5}, \frac{1}{11}, \frac{1}{8}$$

- b) Quyidagi sonlarni kamayib borish tartibida yozing.

$$\frac{13}{14}, \frac{4}{5}, \frac{10}{11}, \frac{7}{8}$$

YUQORI DARAJA

- 6 Butun sonni quyidagi sonlarga bo'lganda hosil bo'lgan o'nli kasrdagi takrorlanuvchi raqamlarning eng katta sonini toping.

- a) 3 b) 7
Javobingizni tushuntiring.

- 7 Quyidagi tasdiqlarning "rost" yoki "yolg'on" ekanini aniqlang. Tasdiq "yolg'on" bo'lsa, kontrmisol keltiring.

- a) Ikki irratsional sonning yig'indisi har doim irratsional son bo'ladi.
b) Ratsional va irratsional sonning yig'indisi irratsional son bo'ladi.
d) Ikki irratsional sonning ko'paytmasi har doim irratsional son bo'ladi.
e) 0 dan farqli ratsional son va irratsional sonning ko'paytmasi irratsional son bo'ladi.

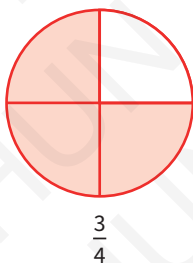
- 8 Shunday a sonni topingki, bu yerda $-\frac{1}{2} < a < -\frac{1}{3}$ va

- a) a — chekli o'nli kasr,
b) a — davriy o'nli kasr,
d) a — irratsional son bo'lsin.

2.5 HAQIQIY SONLAR USTIDA AMALLAR

A Oddiy kasrlar

Biz bu teng kuchli kasrlarni o'rgangan edik: $\frac{3}{4} = \frac{6}{8} = \frac{12}{16}$.



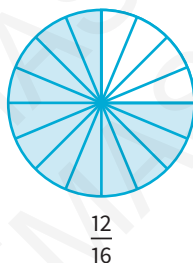
$$\frac{3}{4}$$



$$\frac{6}{8}$$

$$\frac{6}{8} = \frac{3 \times 2}{4 \times 2} = \frac{3}{4}$$

umumiy ko'paytuvchi



$$\frac{12}{16}$$

$$\frac{12}{16} = \frac{3 \times 4}{4 \times 4} = \frac{3}{4}$$

umumiy ko'paytuvchi

$\frac{3}{4}$ oddiy kasr surat va maxrajining 1 dan farqli umumiy bo'luvchisi yo'q.
Bu kasr **qisqarmas shaklda** berilgan deyiladi.

Shuningdek, **to'g'ri kasrlar**, **noto'g'ri kasrlar** va **aralash sonlar** ustida to'rt amalni o'rgangan edik. Bu bo'limda biz to'rt amalni $\frac{a}{b}$ (bu yerda a va b — butun sonlar va $b \neq 0$) ko'rinishidagi ratsional sonlar ustida bajaramiz.

Oddiy kasrlarni qo'shish va ayirish

Butun sonlarni qo'shish va ayirish qoidalari oddiy kasrlar uchun ham amal qiladi.

TAYANCH ATAMALAR

- kasrning qisqarmas shakli
- to'g'ri kasr
- noto'g'ri kasr
- aralash sonlar

CHIZMALAR

Chizmalar yordamida bo'yalgan maydon va butun qism o'rtasida munosabatlarni aniqroq tushunishimiz mumkin. Bo'yalgan qismlarning nisbatlari bir xil ekanini ayta olamiz. Demak, $\frac{3}{4}$, $\frac{6}{8}$ va $\frac{12}{16}$ kasrlar teng kuchli bo'ladi.



E'TIBOR BERING!

Agar oddiy kasrning surati va maxrajining EKUBi 1 ga teng bo'lsa, kasr qisqarmas bo'ladi.

14 MISOL

Kalkulyatordan foydalanmasdan hisoblang. $\frac{7}{8} - \left(-2\frac{3}{4}\right) + \left(-\frac{1}{3}\right)$

YECHISH

EKUK (8, 4, 3) = 24

$$\begin{aligned}\frac{7}{8} - \left(-2\frac{3}{4}\right) + \left(-\frac{1}{3}\right) &= \frac{7}{8} + \frac{11}{4} - \frac{1}{3} \\ &= \frac{21}{24} + \frac{66}{24} - \frac{8}{24} \quad \text{EKUK}(3; 4; 8) = 24. \\ &= \frac{21 + 66 - 8}{24} \\ &= \frac{79}{24} \\ &= 3\frac{7}{24}\end{aligned}$$

14 MASHQ

Kalkulyatordan foydalanmasdan hisoblang. $1\frac{1}{4} + \left(-\frac{8}{3}\right) - \left(-\frac{5}{9}\right)$

Oddiy kasrlarni ko'paytirish va bo'lish

Oddiy kasrni natural songa yoki to'g'ri kasrga ko'paytirish va bo'lish haqida bilimlarimizni aralash sonlar, manfiy kasrlar va manfiy aralash sonlarni qamrab olish uchun kengaytiramiz.

Bir oddiy kasrni ikkinchi oddiy kasrga bo'lish birinchi kasrni ikkinchi kasrning **teskarisiga** ko'paytirishga teng kuchli.

15 MISOL

Kalkulyatordan foydalanmasdan hisoblang.

a) $-2\frac{2}{5} \times \frac{3}{4}$

b) $1\frac{7}{8} \div 1\frac{2}{7}$

YECHISH

a) $-2\frac{2}{5} \times \frac{3}{4} = -\frac{3\cancel{1}2}{5} \times \frac{3}{\cancel{4}_1}$
 $= -\frac{9}{5}$
 $= -1\frac{4}{5}$

Aralash sonni noto'g'ri kasrga almashtiring.
 12 va 4 ni ularning umumiy bo'luvchisi 4 ga bo'ling.
 Ifodani soddalashtiring.

b) $1\frac{7}{8} \div 1\frac{2}{7} = \frac{15}{8} \div \frac{9}{7}$
 $= \frac{5\cancel{1}5}{8} \times \frac{7}{\cancel{9}_3}$
 $= \frac{35}{24}$
 $= 1\frac{11}{24}$

Aralash sonni noto'g'ri kasrga almashtiring.
 $\frac{9}{7}$ ning teskarisiga ko'paytiring.
 9 va 15 ni ularning umumiy bo'luvchisi 3 ga bo'ling.
 Ifodani soddalashtiring.



E'TIBOR BERING!

Oddiy kasrlarni ko'paytirish yoki bo'lish uchun ularning maxrajleri bir xil songa keltirilishi shart emas.

15 MASHQ

Kalkulyatordan foydalanmasdan hisoblang.

a) $-6\frac{2}{3} \times \frac{2}{5}$

b) $1\frac{5}{9} \div \left(-2\frac{1}{3}\right)$

16 MISOL

Kalkulyatordan foydalanmasdan hisoblang. $\left(-\frac{2}{3}\right) \div \left[\frac{1}{2} - \left(-\frac{1}{3}\right)\right]$

YECHISH

$$\begin{aligned} \left(-\frac{2}{3}\right) \div \left[\frac{1}{2} - \left(-\frac{1}{3}\right)\right] &= \left(-\frac{2}{3}\right) \div \left(\frac{1}{2} + \frac{1}{3}\right) \\ &= \left(-\frac{2}{3}\right) \div \left(\frac{3}{6} + \frac{2}{6}\right) \\ &= \left(-\frac{2}{3}\right) \div \frac{5}{6} \\ &= -\frac{2}{3} \times \frac{6^2}{5} \quad \frac{5}{6} \text{ ning teskarisiga ko'paytiring.} \\ &= -\frac{4}{5} \end{aligned}$$

16 MASHQ

Kalkulyatordan foydalanmasdan hisoblang. $\left(-\frac{3}{4}\right) \div \left[\left(-\frac{1}{5}\right) + \left(-\frac{1}{3}\right)\right]$

17 MISOL

Konferensiya ishtirokchilarining $\frac{1}{4}$ qismi 15 yoshdan kichik, $\frac{1}{5}$ qismi esa 20 yoshdan katta. 20 yoshdan kattalarning $\frac{4}{7}$ qismi ayollardan iborat.

- a) 15 va 20 yosh orasidagilar ulushini,
b) 20 yoshdan katta erkaklarning ulushini toping.

YECHISH

a) Izlanayotgan qism $= 1 - \frac{1}{4} - \frac{1}{5}$

$$= \frac{20 - 5 - 4}{20}$$

$$= \frac{11}{20}$$

Ishtirokchilarning $\frac{11}{20}$ qismi 15 va 20 yosh oralig'ida.

b) Izlanayotgan qism $= \frac{1}{5} \times \left(1 - \frac{4}{7}\right)$

$$= \frac{1}{5} \times \frac{3}{7}$$

$$= \frac{3}{35}$$

Ishtirokchilarning $\frac{3}{35}$ qismi 20 yoshdan katta erkaklardir.

17 MASHQ

Shahar terma jamoasidagi o'yinchilarning $\frac{3}{8}$ qismi Olmazor, $\frac{2}{5}$ qismi O'rikzor va qolganlari Bodomzor mahallasining bolalaridir. Olmazor mahallasi o'yinchilarining $\frac{2}{9}$ qismi o'g'il bolalardir.

- Bodomzorlik bolalarning ulushini toping.
- Olmazorlik qiz bolalarning ulushini toping.

B O'nli kasrlar

O'nli kasrlarni qo'shish va ayirish

O'nli kasrlarni qo'shish va ayirishga doir bilimlarimizni manfiy o'nli kasrlargacha kengaytiramiz.

18 MISOL

Quyidagilarni kalkulyatordan foydalanmasdan hisoblang.

- $13,65 + 5,938$
- $47,3 + (-8,415)$
- $15,2 - (-4,33)$

YECHISH

a)

$$\begin{array}{r} 13,650 \\ + 5,938 \\ \hline 19,588 \end{array}$$

Vergullarni bir ustunga qo'ying.

5 dan keyin 0 qo'yildi, sababi sonlarning kasr qismidagi raqamlar soni teng bo'lishi kerak.

Ustundagi sonlarni o'ngdan chapga tomon qo'shing.

$\therefore 13,65 + 5,938 = 19,588$

b) $47,3 + (-8,415) = 47,3 - 8,415$

$$\begin{array}{r} 47,300 \\ - 8,415 \\ \hline 38,885 \end{array}$$

Vergullarni bir ustunga qo'ying.

3 dan keyin ikkita 0 qo'yildi, sababi sonlarning kasr qismidagi raqamlar soni teng bo'lishi kerak.

Ustundagi sonlarni o'ngdan chapga tomon ayiring.

$\therefore 47,3 + (-8,415) = 38,885$

d) $15,2 - (-4,33) = 15,2 + 4,33$

$$\begin{array}{r} 15,20 \\ + 4,33 \\ \hline 19,53 \end{array}$$

Butun sonlarni qo'shish va ayirish qoidalari ratsional sonlar uchun ham taalluqlidir.

$\therefore 15,2 - (-4,33) = 19,53$

18 MASHQ

Quyidagilarni kalkulyatordan foydalanmasdan hisoblang.

- $21,357 + 9,24$
- $16,054 - 8,39$
- $9,08 - (-0,96)$
- $13 + (-2,88)$

O'qli kasrlarni ko'paytirish va bo'lish

O'qli kasrlarni natural sonlarga ko'paytirish va bo'lishni o'rganan edik. Keling, endi o'qli kasrni o'qli kasrga ko'paytirish va bo'lishni o'rganamiz.



MUHOKAMA QILING!

Ikkita o'qli kasrning kasr qismidagi raqamlar soni va ko'paytma kasr qismining raqamlar soni o'rtasida qanday bog'liqlik sezdingiz?

19 MISOL

Quyidagilarni kalkulyatordan foydalanmasdan hisoblang.

a) $3,2 \times 4,7$

b) $1,348 \times (-0,02)$

YECHISH

a) 1-usul

$$\begin{aligned} 3,2 \times 4,7 &= \frac{32}{10} \times \frac{47}{10} \\ &= \frac{32 \times 47}{10 \times 10} \\ &= \frac{1504}{100} \\ &= 15,04 \end{aligned}$$

2-usul

$$\begin{array}{r} 3,2 \\ \times 4,7 \\ \hline 224 \\ + 1280 \\ \hline 15,04 \end{array}$$

← verguldan keyingi bitta xona
← verguldan keyingi bitta xona
← verguldan keyingi 1 + 1 = 2 xona

b) 1-usul

$$\begin{aligned} 1,348 \times (-0,02) &= \frac{1348}{1000} \times \left(-\frac{2}{100}\right) \\ &= -\frac{1348 \times 2}{1000 \times 100} \\ &= -\frac{2696}{100000} \\ &= -0,02696 \end{aligned}$$

2-usul

$$\begin{array}{r} 1,348 \\ \times 0,02 \\ \hline 0,02696 \end{array}$$

← verguldan keyingi uchta xona
← verguldan keyingi ikkita xona
← verguldan keyingi 3 + 2 = 5 xona

∴ $1,348 \times (-0,02) = -0,02696$

Musbat son × manfiy son = manfiy son



E'TIBOR BERING!

"v.k." — "verguldan keyingi" jumlasining qisqartmasi.

19 MASHQ

Quyidagilarni kalkulyatordan foydalanmasdan hisoblang.

a) $3,47 \times 1,2$

b) $2,93 \times (-0,07)$

20 MISOL

Quyidagilarni kalkulyatordan foydalanmasdan hisoblang.

a) $(-3,27) \div 0,3$

b) $(-0,9628) \div (-0,004)$

YECHISH

a) 1-usul

$$-\frac{3,27}{0,3} = -\frac{32,7}{3}$$

0,3 ni butun son qilish uchun vergulni 1 xona o'ngga suring.

$$\begin{array}{r} 32,7 \overline{) 3} \\ \underline{3} \\ 27 \\ \underline{27} \\ 0 \end{array}$$

∴ $(-3,27) \div 0,3 = -10,9$

2-usul

$$\begin{aligned} -\frac{3,27}{0,3} &= -\frac{3,27 \times 100}{0,3 \times 100} \\ &= -\frac{327}{30} \\ &= -10,9 \end{aligned}$$

$$\begin{array}{r} 327 \overline{) 30} \\ \underline{30} \\ 270 \\ \underline{270} \\ 0 \end{array}$$

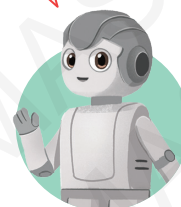
Manfiy son ÷ musbat son = manfiy son

TENG KUCHLILIK



Bo'linuvchini butun songa aylantirish uchun kasrning surati va maxrajini 10 ga ko'paytirish kerak.

Shuningdek, $\frac{3,27}{0,3}$ kasrda bo'linuvchini butun songa aylantirish uchun uning surati va maxrajini 100 ga ko'paytirish kerak: $\frac{327}{30}$.



b) **1-usul**

$$\frac{-0,9628}{-0,004} = \frac{962,8}{4} \quad 0,004 \text{ ni butun son qilish uchun vergulni 3 xona o'ngga suring.}$$

$$\begin{array}{r} 962,8 \overline{) 4} \\ 8 \overline{) 240,7} \\ 16 \\ \underline{16} \\ 28 \\ \underline{28} \\ 0 \end{array}$$

$$\therefore (-0,9628) \div (-0,004) = 240,7$$

2-usul

$$\begin{aligned} \frac{-0,9628}{-0,004} &= \frac{0,9628}{0,004} \\ &= \frac{0,9628 \times 10\,000}{0,004 \times 10\,000} \\ &= \frac{9628}{40} \\ &= 240,7 \end{aligned}$$

$$\begin{array}{r} 9628,0 \overline{) 40} \\ 80 \overline{) 240,7} \\ 162 \\ \underline{160} \\ 280 \\ \underline{280} \\ 0 \end{array}$$

20 MASHQ

Quyidagilarni kalkulyatordan foydalanmasdan hisoblang.

a) $(-0,266) \div 0,07$

b) $(-0,148) \div (-0,005)$

D Kalkulyatordan foydalanish

Keling, kalkulyator yordamida haqiqiy sonlar ustida to'rtta amalni qanday bajarishimiz mumkinligini ko'rib chiqamiz.

21 MISOL

Quyidagilarni kalkulyatordan foydalanib hisoblang.

a) $(-8) \times (-3) \div (-6)^2$

b) $\left(-5\frac{1}{4}\right) \times \left(2\frac{1}{2}\right) \div \left(\frac{2}{3}\right)^3$

d) $\frac{\sqrt{3,85 + 1,5 \times 3}}{\sqrt[3]{4\frac{1}{3} - \frac{5}{8}}}$

YECHISH

	Ifoda	Tugmalar ketma-ketligi	Natija
a)	$(-8) \times (-3) \div (-6)^2$		$\frac{2}{3}$ 0,666666667
b)	$\left(-5\frac{1}{4}\right) \times \left(2\frac{1}{2}\right) \div \left(\frac{2}{3}\right)^3$		$-\frac{2835}{64}$ -44,296 875 $-44\frac{19}{64}$
d)	$\frac{\sqrt{3,85 + 1,5 \times 3}}{\sqrt[3]{4\frac{1}{3} - \frac{5}{8}}}$		1,866882492



MUHOKAMA QILING!

Kalkulyatordan foydalanib sonlarning darajalarini hisoblayotganda ba'zi cheklovlar mavjud. Kalkulyator yordamida 3^{20} , 3^{100} , 3^{200} , 3^{300} va 3^{600} ning qiymatlarini hisoblab ko'ring. Bularning qaysi birini bajarib bo'lmaydi? Kalkulyatordagi cheklovlar haqida nimani angladingiz?



E'TIBOR BERING!

tugmasi oddiy va o'nli kasrlarni, $a\frac{b}{c} \leftrightarrow \frac{d}{c}$ tugmasi esa aralash son va noto'g'ri kasrlarni bir-biriga o'tkazadi.

21 MASHQ

Quyidagilarni kalkulyatordan foydalanib hisoblang.

$$\text{a) } 2,33 \times [5,75 - (-1,68)^2] \quad \text{b) } \frac{5}{8} \times \left(-1\frac{1}{2}\right)^3 \div \left(-2\frac{2}{3}\right) \quad \text{d) } \sqrt{\frac{\left(\frac{1}{4}\right)^2 \div \sqrt[3]{8,89}}{-4,57 + 11,3 \times 2,2}}$$

2.5 MUSTAHKAMLASH MASHQI

BOSHLANG'ICH DARAJA

- 1 Quyidagilarning qiymatlarini toping. Javobni qisqarmas kasr ko'rinishida yozing.

$$\begin{array}{ll} \text{a) } \frac{1}{5} + \frac{2}{7} & \text{b) } \left(-\frac{3}{4}\right) + \left(-\frac{1}{2}\right) \\ \text{d) } 2\frac{3}{4} - 3\frac{11}{12} & \text{e) } -1 - \left(-\frac{5}{6}\right) + \left(-\frac{6}{5}\right) \\ \text{f) } \left(-\frac{24}{25}\right) \times \frac{45}{16} & \text{g) } \left(-\frac{7}{11}\right)^2 - \frac{7}{11} \\ \text{h) } \frac{9}{32} \times 1\frac{3}{5} \times 3\frac{1}{3} & \text{i) } \frac{\left(-4\frac{3}{8}\right)}{\left(5\frac{1}{4}\right)} \\ \text{j) } \left(-1\frac{3}{5}\right) \div \left(-1\frac{1}{3}\right) & \text{k) } 3 + 2\frac{1}{2} \div \left(-1\frac{1}{4}\right) \end{array}$$

Javoblarni kalkulyator yordamida tekshiring.

- 2 Quyidagilarni hisoblang.

$$\begin{array}{ll} \text{a) } 32,7 + 9,84 & \text{b) } 25,02 - 9,765 \\ \text{d) } 11,47 \times 2,8 & \text{e) } (-3,45) \times 1,06 \\ \text{f) } 10,68 \div 0,6 & \text{g) } (-0,1935) \div 0,009 \end{array}$$

Javoblarni kalkulyator yordamida tekshiring.

O'RTA DARAJA

- 3 Quyidagilarning qiymatini toping va javobni qisqarmas kasr ko'rinishida yozing.

$$\begin{array}{l} \text{a) } \left(-\frac{1}{2} + \frac{1}{3} + \frac{1}{6}\right) \times \left(-\frac{2}{5}\right)^2 \\ \text{b) } 1\frac{5}{7} \times \left(\frac{1}{4} - \frac{1}{9}\right) \div \left(-1\frac{1}{4}\right) \\ \text{d) } \left(-2\frac{2}{3}\right) \times \left(-\frac{9}{8}\right) + \left(-\frac{7}{4}\right) \times \frac{2}{21} \\ \text{e) } \left[-1\frac{1}{4} - \left(-\frac{1}{6}\right)\right] \div \left[\frac{1}{3} + \left(-\frac{1}{2}\right)^3\right] \end{array}$$

- 4 Quyidagilarni kalkulyatordan foydalanib hisoblang.

$$\begin{array}{ll} \text{a) } \sqrt{37^2 - 35^2} & \text{b) } \sqrt[3]{3375} - \left(-4\frac{1}{3}\right)^2 \\ \text{d) } \left[-5\frac{3}{4} - \left(-6\frac{1}{2}\right)\right]^3 & \text{e) } \sqrt{\frac{3,21 + 0,4}{4,7 - 2,2}} \end{array}$$

- 5 7-sinf o'quvchilarining $\frac{1}{5}$ qismi Xislat mahallasida, $\frac{4}{9}$ qismi Ahil mahallasida yashaydi. Xislat yoki Ahil mahallasida yashamaydigan o'quvchilarning ulushini toping.

- 6 Jamol aka pullarining $\frac{5}{8}$ qismini sport oyoq kiyimi sotib olish uchun sarfladi. U qolgan pullarining $\frac{1}{3}$ qismini xayriya qildi. Xayriya qilingan pullarning ulushini toping.

- 7 Maryamda 0,5 kg un bor. U tort pishirmoqchi. Retsept bo'yicha, har biri $\frac{1}{8}$ kg dan bo'lgan $4\frac{1}{4}$ ta piyola un kerak. Tort pishirish uchun Maryamda yetarlicha un bormi? Agar yo'q bo'lsa, yana qancha un kerak bo'ladi?

YUQORI DARAJA

- 8 Ixtiyoriy ikkita o'nli kasrning ayirmasi

- a) chekli o'nli kasr,
b) davriy kasr,
d) butun son,
e) irratsional son bo'lishi mumkinmi?
Javobingizni misollar bilan tushuntiring.

- 9 Ali, Botir va Charos — biznes hamkorlar. Jami sarmoyaning $\frac{1}{3}$ qismi Aliga, $\frac{2}{7}$ qismi Botirga tegishli.

- a) Sarmoyaning qancha ulushi Charosga tegishli?
b) Ali Botirga nisbatan 6 000 000 so'm ko'proq sarmoya kiritgan bo'lsa, biznesga jami qancha sarmoya kiritilgan?

- 10 Ikkita bir xil A va B suv idishi bor. A idishning $\frac{3}{7}$ qismi, B idishning $\frac{8}{11}$ qismi suv bilan to'ldirilgan. Ulardagi suvning hajmi teng bo'lishi uchun B idishdagi suvning qanday ulushi A idishga quyilishi lozim?

- 11 $\frac{3}{4}$ va $\frac{9}{11}$ ratsional sonlar berilgan.
- Ulardan kattasini toping.
 - Ular orasidagi ikkita ratsional sonni toping.
 - d) b)** bandda topgan qiymatlaringizni sinfdoshlaringizniki bilan solishtiring.
 - $\frac{3}{4}$ va $\frac{9}{11}$ orasida nechta ratsional son mavjud? Javobingizni asoslang.

2-BOB BO'YICHA ASOSIY MA'LUMOTLAR

SONLARNI TASNIFLASH

Haqiqiy sonlar

Masalan: -9 ; -5 ; 0 ; $0,4$; $1,(3)$; 3 ; 11 ; $\frac{3}{8}$; $\frac{9}{4}$; $3\frac{4}{9}$; $-2\frac{1}{7}$; π ; $\sqrt{2}$; $0,232232223\dots$

Ratsional sonlar
(chekli yoki davriy o'nli kasrlar)

Masalan: -9 ; -5 ; 0 ; $0,4$; $1,(3)$; 3 ; 11 ; $\frac{3}{8}$; $\frac{9}{4}$; $3\frac{4}{9}$; $-2\frac{1}{7}$

Irratsional sonlar
(davriy bo'lmagan cheksiz o'nli kasrlar)

Masalan: π ; $\sqrt{2}$; $0,232232223\dots$

Butun sonlar

Masalan:

Oddiy kasrlar

Masalan:

0 va natural sonlar

(0 va musbat butun sonlar)

Masalan: 0 ; 3 ;

Manfiy butun sonlar

Masalan:

Ratsional sonlar

- Ratsional sonlar $\frac{a}{b}$ ko'rinishida yoziladigan haqiqiy sonlardir (bu yerda a va b — butun sonlar va $b \neq 0$).
- Ratsional sonlar o'nli kasrlar va o'nli kasrlardan iborat.

Ratsional sonlarga ikkita misol keltiring.

Irratsional sonlar

- Irratsional sonlar $\frac{a}{b}$ ko'rinishida yozib bo'lmaydigan haqiqiy sonlardir (bu yerda a va b — butun sonlar va $b \neq 0$).
- Irratsional sonlar va o'nli kasrlardan iborat.

Irratsional sonlarga ikkita misol keltiring.

SONLAR O'QI

- Har qanday haqiqiy son sonlar o'qida nuqta bilan belgilanishi mumkin.
- Sonlar o'qi haqiqiy sonlarning joylashuvini ko'rsatadi. Sonlar o'qidagi har bir son o'zining o'ng tomonida joylashgan barcha sonlardan kichik va chap tomonida joylashgan barcha sonlardan katta bo'ladi.
Masalan: $-3 < -2,6 < -2$ va $1,6 > -2,6$.

