

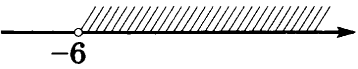


### 13-Mavzu. Tengsizliklar

- $9x + 4 \geq 6(x - 1) - 7x$  tengsizlikning yechimi bo‘ladigan eng kichik butun sonni toping.  
 A)  $-1$  B)  $0$  C)  $1$  D)  $2$
- $8(2 - x) > 3(4 - x)$  tengsizlikning yechimi bo‘ladigan eng katta butun sonni toping.  
 A)  $0$  B)  $-1$  C)  $1$  D)  $2$
- Tengsizlikni yeching:  $\frac{3+2x}{6} > \frac{x-1}{4} - \frac{2x+3}{3}$   
 A)  $x > \frac{7}{3}$  B)  $x > -\frac{7}{3}$  C)  $x > \frac{3}{7}$  D)  $x > 0,6$
- Rasmda tasvirlangan sonli oraliqni ko‘rsating.  
  
 A)  $(2; 5)$  B)  $[2; 5]$  C)  $(5; 2)$  D)  $[5; 2]$
- Rasmda tasvirlangan sonli oraliqni ko‘rsating.  
  
 A)  $(2; -3)$  B)  $[-3; 2]$  C)  $(-3; 2)$  D)  $[2; -3]$
- Rasmda tasvirlangan sonli oraliqni ko‘rsating.  
  
 A)  $[-6; \infty)$  B)  $(-\infty; -6]$  C)  $(-\infty; -6)$  D)  $(-6; \infty)$
- $p$  ning qanday qiymatida  $4x - 7p = 4$  tenglama musbat ildizga ega?  
 A)  $p > -\frac{4}{7}$  B)  $p > \frac{4}{7}$  C)  $p < -\frac{4}{7}$  D)  $p < \frac{4}{7}$
- $2 \leq \frac{x+3}{2} \leq 5$  qo‘sh tengsizlikning tub sonlardan iborat nechta yechimi bor?  
 A)  $4$  B)  $6$  C)  $3$  D)  $5$
- Qo‘sh tengsizlikni yeching.  
 $-4 < 2 - 4x < -2$   
 A)  $(-1,5; -1)$  B)  $(1; 2)$  C)  $(0; 1)$  D)  $(1; 1,5)$

10. Tengsizliklar sistemasi butun yechimlari yig'indisini toping

$$\begin{cases} \frac{x-1}{4} \leq \frac{x}{5} \\ \frac{x}{3} > \frac{x+4}{7} \end{cases}$$

A) 12 B) 9 C) 7 D) 8

11.  $1 + 8x \leq 358 - 2x \leq 6x + 94$  qo'sh tengsizlikning barcha butun yechimlari yig'indisini toping.

A) 201 B) 102 C) 350 D) 196

12.  $\begin{cases} \frac{x+2}{3} + \frac{x-1}{4} \geq \frac{7x-5}{12} \\ \frac{4x-5}{3} + \frac{2x-3}{8} \leq \frac{38x-15}{24} \end{cases}$  tengsizliklar sistemasini yeching.

A)  $(-\infty; 4)$  B) 0 C)  $\emptyset$  D)  $(-\infty; \infty)$

13.  $\begin{cases} \frac{4x-5}{5} + \frac{2x+3}{3} \geq 3x - 1\frac{8}{15} \\ \frac{4x-11}{4} - \frac{2x-5}{3} \leq x - 1,25 \end{cases}$  sistema nechta butun yechimga ega?

A)  $\emptyset$  B) 1 C) 10 D) cheksiz ko'p

14. Tengsizliklar sistemasini yeching:  $\begin{cases} (x-2)(x-3) \leq (x+2)(x+3) + 10, \\ 3 \cdot (4x-1) \leq 4 \cdot (2x+3). \end{cases}$

A)  $x \geq -1$  B)  $x \leq 3$   
C)  $-1 \leq x \leq 3$  D)  $-1 \leq x \leq 3,75$

15. Quyidagilardan qaysilari to'g'ri?

- 1) agar  $b > 0, a > c > 0$  bo'lsa, u holda  $\frac{a}{b} > \frac{c}{b}$  bo'ladi;
- 2) agar  $a > 0, b > c > 0$  bo'lsa, u holda  $\frac{a}{b} > \frac{a}{c}$  bo'ladi;
- 3) agar  $0 < a < b, a > c > 0$  bo'lsa, u holda  $\frac{a}{b} < \frac{a+c}{b+c}$  bo'ladi;

A) 1;2;3 B) 1;3 C) 2;3 D) faqat 1

16.  $3 < a < 7$  va  $3 < b < 10$  bo'lsa,  $a$  va  $b$  butun sonlar uchun  $\frac{1+\frac{a}{b}}{1+\frac{b}{a}}$  kasrning

eng katta qiymatini toping.

A)  $\frac{21}{10}$  B)  $\frac{3}{2}$  C) 6 D) 3

17. Agar  $x < -1, y > 1$  bo'lsa, quyidagi javoblardan qaysi biri har doim o'rinli?

A)  $y^5 > x^3$  B)  $x^4 > y$  C)  $x^2 < y^2$  D)  $x^6 < y^2$

18.  $x, y$  butun sonlar uchun  $-4 \leq x < 5, -5 < y \leq 6$  tengsizliklar o'rinli.

$x^3 - y^2$  ifodaning eng katta qiymatini toping.

A) 100 B) 124 C) 125 D) 64

19. Agar  $a < b$  bo'lsa, quyidagi keltirilganlardan qaysilari har doim o'rinli bo'ladi?  
1)  $a - 2 < b - 1$  2)  $12a < 11b$  3)  $-3,3a > -3,3b$   
A) 1;2 B) 1;3 C) 1;2;3 D) 2;3
20.  $(3 - x)(x - 15) > 0$  tengsizlikni qanoatlantiruvchi tub sonlar nechta?  
A) 3 B) 4 C) 5 D) 6
21.  $x^2 - 2020x + 2019 \leq 0$  tengsizlikning butun yechimlari sonini toping.  
A) 2018 B) 2019 C) 2020 D) 2021
22. Tengsizlikni yeching:  $x^2 - 5x + 6 \leq 0$   
A)  $[-3; -2]$  B)  $[-1; 6]$  C)  $[2; 3]$  D)  $[-6; 1]$
23. Tengsizlikni yeching:  $\frac{26}{3} - \frac{7x^2 + 4x}{7} > \frac{2 - 3x^2}{3}$   
A)  $(14; \infty)$  B)  $(-14; \infty)$   
C)  $(-\infty; \frac{1}{4})$  D)  $(-\infty; 14)$
24.  $a^2 < 38$  tengsizlikni qanoatlantiruvchi eng katta butun sonning barcha natural bo'luvchilari yig'indisini toping.  
A) 6 B) 10 C) 12 D) 15
25.  $(1+x)^2 + 3x^2 < (2x-1)^2 + 7$  tengsizlikni yeching  
A)  $(-12; -\infty)$  B)  $(-\infty; 1\frac{1}{6})$  C)  $(\frac{5}{11}; \infty)$  D)  $(12; \infty)$
26.  $3x^2 - 7x + 5 > 0$  tengsizlikni yeching.  
A)  $\emptyset$  B)  $x \in R$  C)  $(-11; \infty)$  D)  $(-\infty; -14)$
27.  $2x^2 + 11x + 17 < 0$  tengsizlikni yeching.  
A)  $\emptyset$  B)  $x \in R$  C)  $(-\infty; -15)$  D)  $(-14; \infty)$
28.  $x^2 - 8x + 13 \leq 0$  tengsizlikning barcha butun yechimlari ko'paytmasini toping.  
A) 12 B) 60 C) 360 D) 42
29.  $x^2 - 10x - 47 \geq 0$  tengsizlikni qanoatlantiruvchi eng katta manfiy butun va eng kichik musbat butun yechimlar ko'paytmasini toping.  
A) -48 B) -56 C) -70 D) -78
30.  $\frac{x^2 + 3x}{2} - \frac{2x^2 - 5x}{3} \leq -\frac{x^2 + 32}{3} + \frac{1}{2}x$  tengsizlikni yeching.  
A)  $\emptyset$  B)  $x \geq -8$  C)  $x \leq -8$  D)  $x = -8$

**Kalitlar**

1.	A	16.	B
2.	A	17.	A
3.	B	18.	D
4.	B	19.	B
5.	C	20.	B
6.	D	21.	B
7.	A	22.	C
8.	A	23.	D
9.	D	24.	C
10.	B	25.	B
11.	B	26.	B
12.	D	27.	A
13.	A	28.	B
14.	D	29.	B
15.	C	30.	D