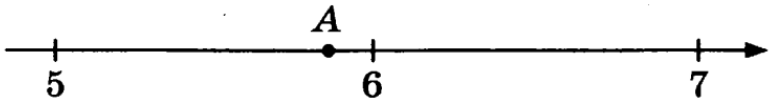
14-Mavzu. Tengsizliklar

1. $\sqrt{29}, \sqrt{34}, \sqrt{39}, \sqrt{45}$ sonlardan biri koordinata o‘qida A nuqta bilan belgilangan. Bu qaysi son?



A) $\sqrt{29}$ B) $\sqrt{34}$ C) $\sqrt{39}$ D) $\sqrt{45}$

2. $\frac{2x^2-5}{4} - \frac{3x^2-2x}{3} \geq -\frac{7x^2+31}{12}$ tengsizlikni yeching.

A) $x \geq -4$ B) $\emptyset$ C) $x \in R$ D) $x \leq -4$

3. Yechimga ega bo‘lmagan tengsizlikni ko‘rsating.

A) $x^2 - 5x - 53 < 0$ B) $x^2 - 5x + 53 > 0$

C) $x^2 - 5x + 53 < 0$ D) $x^2 - 5x - 53 > 0$

4. $\frac{(8-x)^2}{x-3} > 0$ tengsizlikning $[-1; 9]$ oraliqda yotuvchi butun yechimlari yig‘indisini toping.

A) 34 B) 31 C) 39 D) 42

5. Tengsizlikni yeching: $\frac{2x-1}{x} < 2$

A) $x<0$ B) $x>0$ C) $0{,}5<x<2$ D) $x<2$

6. $\frac{49x-x^3}{3x} > 0$ tengsizlikning butun yechimlari sonini toping.

A) 15 B) 14 C) 13 D) 12

7. $\begin{cases} 2x + 3y = a + 2 \\ 3x + 5y = 3a + 1 \end{cases}$ a ning qanday qiymatlarida sistema yechimlari uchun $x>y$ shart bajariladi.

A) $a>\frac{7}{11}$ B) $a<\frac{7}{11}$ C) $a>1\frac{4}{7}$ D) $a<1\frac{4}{7}$

8. $(x-1)(x+2)(x+3)^2 \leq 0$ tengsizlikni yeching.

A) $(-\infty; -3] \cup [-2; 1]$ B) $[-3; -2] \cup [1; \infty)$

C) $[-2; 1]$ D) $\{-3\} \cup [-2; 1]$

9. $\frac{(x+5)^2(x-1)}{x^2-1} \geq 0$ tengsizlikni yeching.
A) $[-1;\infty)$ B) $\{-5\} \cup [-1;\infty)$
C) $[-1;1) \cup (1;\infty)$ D) $\{-5\} \cup (-1;1) \cup (1;\infty)$

10. Tengsizlikni yeching: $x(x-1)^2 \geq 12 \cdot (x-1)$.
A) $(-\infty;-3] \cup [4;+\infty)$ B) $(-\infty;-3] \cup [1;4]$
C) $[-3;1] \cup [4;+\infty)$ D) $[-3;4]$

11. $-8x + 9x^2 - 5x^3 + x^4 + 4 \geq 0$ tengsizlikni yeching.
A) $\varnothing$ B) $x \in R$ C) $[2;\infty)$ D) $(2;\infty)$

12. $\frac{x^2-5x-6}{-x^2+4x-10} \geq 0$ tengsizlikni yeching.
A) $\left(\frac{1}{2};6\right)$ B) (0;3) C) [–1;6] D) [0;5]

13. $\frac{(x+2)^2(x-3)^3(x+7)}{x-5} > 0$ tengsizlikni yeching.
A) $(-7;-2) \cup (-2;3) \cup (5;+\infty)$ B) $(-7;-2) \cup (-2;-3) \cup (3;5)$
C) $(-7;-2) \cup (5;+\infty)$ D) $(-\infty;-7) \cup (3;5)$

14. $(4x^2 + 4x + 1)(x-3) \geq 0$ tengsizlikning nechta manfiy yechimi bor?
A) cheksiz ko‘p B) manfiy yechimi yo‘q C) 11 ta D) 1 ta

15. $(n^2+9)(n^2-8) \leq 0$ tengsizlikni qanoatlantiruvchi nechta butun son bor?
A) 7 ta B) 6 ta C) 5 ta D) 4 ta

16. $(2x-1)^2(x-2)^4(x+3)^6(x+4)^8 \leq 0$ tengsizlik nechta butun yechimga ega?
A) Ø B) 4 ta C) 3 ta D) cheksiz ko’p

17. $(x^2-x)^2 + 3(x^2-x) + 2 \geq 0$ tengsizlikni yeching.
A)$(-\infty;0)$ B) $(0;\infty)$ C)$(-\infty;0) \cup (1;\infty)$ D) $(-\infty;+\infty)$

18. $x(x+1)(x+2)(x+3) < 48$ tengsizlik butun yechimlari yig‘indisini toping.
A) –9 B) –8 C) –7 D) –10

19. $\begin{cases} x^2 - x - 20 \leq 0; \\ x^2 + x + 20 \geq 0; \\ x^2 + x - 20 \leq 0; \\ x^2 - x + 20 \geq 0. \end{cases}$ tengsizliklar sistemasi nechta butun yechimga ega?
A) 11 ta B) 10 ta C) 9 ta D) 8 ta

20. $4x^2 \le x^2 - 12x + 36 \le 25$ qo‘sh tengsizlikni qanoatlantiruvchi butun sonlar nechta?
A) 1 B) 2 C) 3 D) 4

21. Ushbu $\begin{cases} 1 - 5a + ax > 0; \\ 5 + 3a - ax > 0. \end{cases}$ tengsizliklar sistemasi a ning qanday qiymatlarida yechimga ega bo‘lmaydi?
A) $[3;\infty)$ B) $(-\infty;0) \cup [1;\infty)$ C) $\{1\}$ D) $(-\infty;0)$

22. Ushbu $\frac{\sqrt{x-3}}{x-7}$ ifoda x ning qanday qiymatlarida ma’noga ega?
A) $[3;7) \cup (7;\infty)$ B) $[7;\infty)$ C) $[3;\infty)$ D) $(7;\infty)$

23. Ushbu $\sqrt[7]{8 - 2x - x^2}$ ifoda x ning qanday qiymatlarida ma’noga ega?
A) $[0;+\infty)$ B) $(-\infty;+\infty)$ C) $[-3;2]$ D) $(-\infty;0]$

24. Ushbu $\frac{\sqrt{2x-x^2+15}+\sqrt{x}}{\sqrt{9x-x^2-14}}$ ifoda x ning qanday qiymatlarida ma’noga ega?
A) $[0;5]$ B) $(2;5]$ C) $[2;7]$ D) $[0;7]$

25. c qanday bo‘lganda $\begin{cases} cx > c^2 - 5c + 3 \\ cx < c^2 + 5c - 3 \end{cases}$ tengsizliklar sistemasi yechimga ega emas?
A) $c > 0{,}6$ B) $c \ge 0{,}6$ C) $c \le 0{,}6$ D) $c < 0{,}6$

26. $\begin{cases} a^2 - 5ax + a - 1 \ge 0 \\ a^2 - 5ax - a + 2 \le 0 \end{cases}$ tengsizliklar sistemasi yechimga ega bo‘ladigan a ning barcha qiymatlarini toping.
A) $a \ge -1{,}5$ B) $a \ge 1{,}5$ C) $a \le 1{,}5$ D) $a < 1{,}5$

27. a ning qanday qiymatlarida $\frac{2x^2+2x+3}{x^2+x+1} \le a$ tengsizlik $x \in R$ da o‘rinli bo‘ladi?
A) $(-\infty;2) \cup \left[3\frac{1}{3};\infty\right)$ B) $\left[3\frac{1}{3};\infty\right)$ C) $(-\infty;2) \cup \left(3\frac{1}{3};\infty\right)$ D) $\left(3\frac{1}{3};\infty\right)$

28. c qanday qiymatlarida $\frac{x^2-cx-2}{x^2-3x+4} > -1$ tengsizlik $x \in R$ da o‘rinli?
A)$(-1;7)$ B)$(-7;1)$ C)$(-7;7)$ D)$(-1;1)$

29. Teng kuchli tengsizliklar qaysi?

1) $\frac{x-2}{x+3} > 0$; 2) $(x-2)(x+3) > 0$; 3) $(x^2-x+2)(x^2+x-6) > 0$;
4) $(x-2)^{2n+1} \cdot (x+3)^{2n-1} > 0$, $(n \in N)$.

A) 1; 2 B) 1; 2; 3 C) 1; 2; 3; 4 D) 1; 2; 4

30. $x^8 - x^5 + x^2 + x + 1 > 0$ tengsizlikni yeching.

A) $(-\infty; 0) \cup (1; \infty)$ B) $(-\infty; 1)$ C) Ø D) $(-\infty; +\infty)$

Kalitlar

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