

Inequalities Review

Solve each of the following inequalities. Graph your answers on a number line and write out your solutions using interval notation.

Simple Inequalities

1. $4x < 8$

2. $x + 20 > -1$

3. $4x + 7 \leq 39$

4. $7 - 4(2x - 8) > -9$

5. $2(3x + 1) > -16$

6. $4(2x - 3) < 52$

7. $-17 - 4(6 - 2x) \geq 23$

8. $x < 7x - 24$

9. $2 - x < 4 + x$

Compound Inequalities

10. $0 \leq x - 2 < 3$

11. $2 > x + 2 \geq 0$

12. $-3 > 2x + 5 > 21$

13. $-3 \leq -2(x - 3) < 6$

14. $-8 < 2(1 - 3x) < 18$

15. $x \neq 3$

16. $2x + 7 \geq 13$ or $5x - 4 < 6$

17. $2x + 7 \geq 13$ and $5x - 4 < 6$

18. $2x + 3 > 1$ or $5x - 9 \leq 6$

19. $5x - 1 > 0$ and $4x + 2 < 0$

Absolute Value Inequalities

20. $|x + 3| > 4$

21. $|x + 4| \leq 1$

22. $2|3x - 7| < 14$

23. $\left|1 - \frac{x}{3}\right| \geq \frac{2}{3}$

24. $|2x - 1| + 3 \leq 6$

25. $6 + 5|2x - 3| \geq 4$

26. $6 - 5|2x - 3| > 4$