

Directions: Solve each of the following inequalities for x . Write your final answer **graphically** and in **interval notation**.

1. $3 - 2x \leq 9$

2. $5x + 6 > 7x + 9$

3. $4 - 3x \geq 5x + 12$

4. $6 - 5x \leq x - 6$

5. $5 + 2x > 4x + 7$

6. $-6 < 7x + 2 \leq 5$

7. $\frac{1}{2} < 3 - x < 5$

8. $-16 \leq 7 - 2x < 5$

$$9. -16 \leq 7 - 2x \leq 5$$

$$10. -2 < 3x + 1 < 7$$

$$11. |3x - 1| > 2$$

$$12. |x + 5| \leq 2$$

$$13. |2x + 5| > 3$$

$$14. |3x - 1| > 9$$

$$15. (x + 3)^2 \geq 4$$

$$16. (x - 1)^2 \leq 25$$

$$17. (x + 1)^2 \geq 9$$

$$18. x^2 - x > 6$$

$$19. 3x^3 - 6x^2 > 0$$

$$20. 2x^2 + 3x \geq 5$$

$$21. \frac{x+16}{3x+2} \leq 5$$

$$22. \frac{x+7}{3x-1} < 1$$

$$23. \frac{3x-7}{x+2} < 1$$

$$24. \frac{4}{x+1} \leq \frac{3}{x+2}$$

$$25. \frac{3}{x-2} \leq \frac{5}{x+2}$$