Solve each inequality.

1) \(5x + 7 > 22\) and \(6x - 4 < 26\)

2) \(-12 \leq \frac{3x}{2} < -6\)

3) \(11 \geq \frac{x - 8}{2} \geq 5\)

4) \(-3 < \frac{x + 20}{4} \leq 9\)

5) \(2x - 17 \geq -5\) or \(13x + 38 < -1\)

6) \(49 \leq 8x - 7 < 57\)

7) \(9 < -x + 5 \leq 1\) or \(5x - 1 \geq 9\)

8) \(\frac{x}{2} - 6 > 13\) and \(\frac{x}{4} + 2 > -3\)

9) \(4 \leq 8x - 7 < 57\)

Solving Compound Inequalities

PREVIEW

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Solve each inequality.

1) \(5x + 7 > 22\) and \(6x - 4 < 26\)
   - \(3 < x < 5\)

2) \(-12 \leq \frac{3x}{2} < -6\)
   - \(-8 \leq x < -4\)

3) \(11 \geq \frac{x - 8}{2} \geq 3\)
   - \(-12 \leq x \leq 16\)

4) \(x < -3\) or \(x \geq 6\)

5) \(2x - 17 \geq -5\) or \(13x + 38 < -1\)
   - \(x \geq -2\)

6) \(49 \leq 8x - 7 < 57\)
   - \(x \geq -2\)

7) \(9 < -x + 5 \leq 1\) or \(2x - 6 > 13\) and \(\frac{x}{4} + 2 > -3\)
   - \(7 \leq x < 8\)

8) \(9x - 15 < -6\)
   - \(3x < 9\)

9) \(9x + 10 \geq -12\) or \(5x - 1 \geq 99\)
   - \(x < -4\) or \(x \geq 16\)

10) \(x > 38\)

Answer key