

Solving Multi-Step Inequalities Exit Quiz

Solve each inequality.

1. $13x - 11 \geq 7x + 37$

2. $x > \frac{16 - x}{-3}$

3. $3(x - 10) - 8x > 45$

4. $3 - 3(x - 2) < 13 - 4(x - 5)$

Write, solve and graph each inequality.

5. Negative four times a number plus nine is more than the number minus twenty one.



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ANSWER

Solve each inequality.

1. $13x - 11 \geq 7x + 37$

$$13x - 7x - 11 \geq 7x - 7x + 37$$

$$6x - 11 \geq 37$$

$$6x - 11 + 11 \geq 37 + 11$$

$$6x \geq 48$$

$$\frac{6x}{6} \geq \frac{48}{6}$$

$$x \geq 8$$

2. $x > \frac{16 - x}{-3}$

$$x(-3) > \frac{16 - x}{-3}(-3)$$

$$-3x > 16 - x$$

$$-3x + x > 16 - x + x$$

$$-2x > 16$$

$$\frac{-2x}{-2} < \frac{16}{-2}$$

$$x < -8$$

3. $3(x - 10) - 8x > 45$

$$3x - 30 - 8x > 45$$

$$-30 - 5x > 45$$

$$-30 + 30 - 5x > 45 + 30$$

$$-5x > 75$$

$$\frac{-5x}{-5} < \frac{75}{-5}$$

$$x < -15$$

4. $3 - 3(x - 2) < 13 - 4(x - 5)$

$$3 - 3x + 6 < 13 - 4x + 20$$

$$9 - 3x < 33 - 4x$$

$$9 - 3x + 4x < 33 - 4x + 4x$$

$$9 + x < 33$$

$$9 - 9 + x < 33 - 9$$

$$x < 24$$

Write, solve and graph each inequality.

5. Negative four times a number plus nine is more than the number minus twenty one.



$$-4x + 9 > x - 21$$

$$-4x + 4x + 9 > x + 4x - 21$$

$$9 > 5x - 21$$

$$9 + 21 > 5x - 21 + 21$$

$$30 > 5x$$

$$\frac{30}{5} > \frac{5x}{5}$$

$$6 > x$$