

Objective #5

Solve linear inequalities (Page 1 of 2)

1. Solve: $5x - 8x + 13 > 5x - (16 - 7x)$

[A] $x < \frac{29}{15}$

[B] $x < -\frac{29}{9}$

[C] $x > \frac{29}{15}$

[D] $x > -\frac{29}{9}$

LCD: Does not apply

Isolate $5x - 8x + 13 > 5x - (16 - 7x)$

$$-3x + 13 > 5x - 16 + 7x$$

$$-3x + 13 > 12x - 16$$

$$+3x + 16 \quad +3x + 16$$

$$\frac{29}{15} > \frac{15x}{15}$$

$$\frac{29}{15} > x$$

2. If the replacement set is the set of integers, find the solution set for the inequality $x + 11 \geq 12$

[A] $\{1, 2, 3, \dots\}$

[B] $\{1\}$

[C] $\{23, 24, 25, \dots\}$

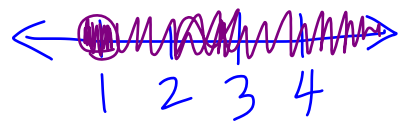
[D] $\{-1, 0, 1, \dots\}$

$$x + 11 \geq 12$$

$$-11 \quad -11$$

$$x \geq 1$$

This is



* Notice 1 is included.

Solve linear inequalities (Page 2 of 2)

Solve:

3. $-7x > -21$

[A] $\{x|x > 3\}$

[B] $\{x|x < 3\}$

[C] $\{x|x < -3\}$

[D] $\{x|x > -3\}$

$$\begin{array}{r} -7x > -21 \\ \hline -7 & -7 \end{array}$$

$$x < 3$$

When dividing by or multiplying by a negative number, you MUST flip the inequality symbol.

4. $3x + 15 > -12$

[A] $x < -30$

[B] $x > -30$

[C] $x > -9$

[D] $x < -9$

$$\begin{array}{r} 3x + 15 > -12 \\ -15 & -15 \end{array}$$

$$\begin{array}{r} 3x > -27 \\ \hline 3 & 3 \end{array}$$

$$x > -9$$