

FEBRUARY 8, 2012

Act 1

GET OUR FOUR HOMEWORK - WS2 AND CUMULATIVE REVIEW WS2

$$3) \quad \begin{array}{r} 12 > -n + 9 \\ -9 \qquad -9 \end{array}$$

$$3 > -n$$

$$-n < 3$$

$$n > -3$$

$$8) \quad \begin{array}{r} \cancel{3} - x < -9 \\ -\cancel{3} \qquad -3 \end{array}$$

$$-x < -12$$

$$x > 12$$

2/8 - Solving Multi-Step Inequalities

- ~~1. Distribute~~
2. Combine like terms
- ~~3. Get variable on one side~~
4. Undo add/subtract
5. Undo multiply

$$\begin{aligned} \underline{3k} - \underline{5k} &\geq -2 \\ -2k &\geq -2 \\ \frac{-2k}{-2} &\frac{-2}{-2} \\ k &\leq 1 \end{aligned}$$

Flip the inequality sign when:

1. you multiply/divide by a negative
2. you change the signs of both sides
3. you switch sides

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$$\begin{aligned}
 & r - \underline{8} - \underline{2} \geq -10 - \underline{8r} + \underline{4r} \\
 & 1r - 10 \geq -4r - 10 \\
 & +4r \quad \quad \quad +4r \\
 & 5r - 10 \geq -10 \\
 & +10 \quad \quad \quad +10 \\
 & 5r \geq 0 \\
 & \frac{5r}{5} \geq \frac{0}{5} \\
 & r \geq 0
 \end{aligned}$$

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* Variable must end on the left!

$$\begin{aligned} 18 &\geq -3(8 - 7n) \\ 18 &\geq -24 + 21n \\ +24 \quad +24 \\ 42 &\geq 21n \\ \frac{42}{21} &\geq \frac{21n}{21} \\ 2 &\geq n \\ n &\leq 2 \end{aligned}$$

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$$-4(2 + 8x) \geq 40 - 8x$$

$$-8 - 32x \geq 40 - 8x$$

$+8x$ $+8x$

$$-8 - 24x \geq 40$$

$$+8$$

$+8$

$$\underline{-24x} \geq \underline{48}$$

$$\underline{-24} \quad \underline{-24}$$

$$x \leq -2$$

$$\begin{aligned}
& 2(-4 - 7b) + 2b \geq 8 - 1(-8 + 6b) \\
& -8 - 14b + 2b \geq 8 + 8 - 6b \\
& -8 - 12b \geq 16 - 6b \\
& \quad + 6b \qquad \quad + 6b \\
& -8 - 6b \geq 16 \\
& \quad + 8 \qquad \quad + 8 \\
& \quad \quad -6b \geq 24 \\
& \quad \quad \quad \underline{-6} \qquad \quad \underline{-6} \\
& \quad \quad \quad b \leq -4
\end{aligned}$$

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$$\begin{aligned}
 & -8(6x + 1) - 6(x + 7) \geq 58 \\
 & \underline{-48x} - \underline{8} - \underline{6x} - \underline{42} \geq 58 \\
 & -54x - 50 \geq 58 \\
 & \quad \quad \quad +50 \quad +50 \\
 & -54x \geq 108 \\
 & \underline{-54} \quad \quad \quad \underline{-54} \\
 & \quad \quad \quad x \leq -2
 \end{aligned}$$

1. Distribute
2. Combine like terms
3. Get variable on one side
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5. Undo multiply

HOMEWORK

Pink INEQUALITIES WS3

DUE Thursday