

# Warm-Up

12/5/2017

a. Solve and graph the inequality.

b. Determine a correct and incorrect solution.

$$9 - 2(x + 1) \geq 13$$

$$\begin{array}{ccc} -9 & & -9 \\ -2(x+1) & \geq & 4 \end{array}$$

$$-2(x+1) \geq 4$$



$$\begin{array}{ccc} -2(x+1) & \geq & 4 \\ \hline -2 & & -2 \end{array}$$

$$x + 1 \leq -2$$

$$\begin{array}{ccc} -1 & & -1 \end{array}$$

$$\boxed{x \leq -3}$$

CORRECT

$$-2(x+1) \geq 4$$

$$-2x - 2 \geq 4$$

$$\begin{array}{ccc} +2 & & +2 \end{array}$$

$$\begin{array}{ccc} -2x & \geq & 6 \\ \hline -2 & & -2 \end{array}$$

$$\boxed{x \leq -3}$$

INCORRECT

$$9 - 2((-3) + 1) \geq 13$$

$$9 - 2(-2) \geq 13$$

$$9 + 4 \geq 13$$

$$13 \geq 13$$

✓

$$9 - 2((-4) + 1) \geq 13$$

$$9 - 2(-3) \geq 13$$

$$9 + 6 \geq 13$$

$$15 \geq 13$$

✓

$$9 - 2((1) + 1) \geq 13$$

$$9 - 2(2) \geq 13$$

$$9 - 4 \geq 13$$

$$5 \geq 13$$

X

# Graphing 2-variable inequalities

What's new?

- dotted line or solid line

$$y >$$

$$y <$$

$$y \leq$$

$$y \geq$$

- shaded region (above or below)

$$y >$$

$$y \geq$$

$$y <$$

$$y \leq$$

- solution(s) region

any points in the shaded region or on a solid line are solutions to the inequality