

1-3-19

Aim: SWBAT review.

HW: Test tomorrow

Do Now: True or False?

5 is a solution to...

$$x - 10 > 4x + 8$$

5 is a solution to...

$$2x + 1 \leq 20$$

5 is a solution to...

$$-3(x - 2) \geq -4(x + 1)$$

True or False?

5 is a solution to...

$$x - 10 > 4x + 8$$

$$5 - 10 \stackrel{?}{>} 4 \cdot 5 + 8$$

$$-5 \stackrel{?}{>} 20 + 8$$

$$-5 > 28 \text{ False;}$$

5 is not a solution

5 is a solution to...

$$2x + 1 \leq 20$$

$$2 \cdot 5 + 1 \stackrel{?}{\leq} 20$$

$$10 + 1 \stackrel{?}{\leq} 20$$

$$11 \leq 20$$

True: 5
is a solution

5 is a solution to...

$$-3(x - 2) \geq -4(x + 1)$$

$$-3(5 - 2) \stackrel{?}{\geq} -4(5 + 1)$$

$$-3(\checkmark 3) \stackrel{?}{\geq} -4(\checkmark 6)$$

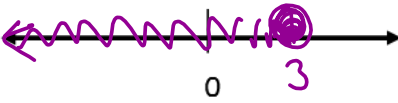
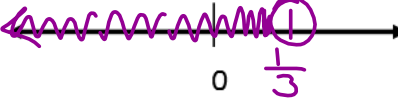
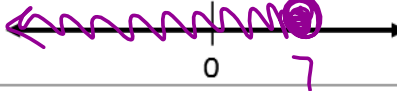
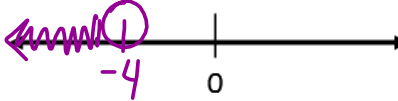
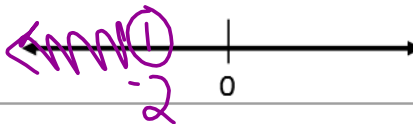
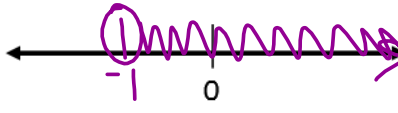
$$-9 \geq -24$$

True:
5 is a solution

Aim: SWBAT solve and graph multi-step inequalities.

Solve and graph.

| | A | B |
|---|--|--|
| 1 | $3(x + 2) > 12$ $\begin{array}{r} 3x + 6 > 12 \\ -6 \quad -6 \\ \hline 3x > 6 \\ \div 3 \quad \div 3 \\ x > 2 \end{array}$ | $-5(-2x + 6) \leq -10$ $\begin{array}{r} 10x - 30 \leq -10 \\ +30 \quad +30 \\ \hline 10x \leq 20 \\ \div 10 \quad \div 10 \\ x \leq 2 \end{array}$ |
| 2 | $2x - 6x + 3 \leq 11$ $\begin{array}{r} -4x + 3 \leq 11 \\ -3 \quad -3 \\ \hline -4x \leq 8 \\ \div -4 \quad \div -4 \\ x \geq -2 \end{array}$ | $-5x + 3 + 13 > 10$ $\begin{array}{r} -5x + 16 > 10 \\ -16 \quad -16 \\ \hline -5x > -6 \\ \div -5 \quad \div -5 \\ x < 1\frac{1}{5} \end{array}$ |
| 3 | $2x + 3 < 6x - 9$ $\begin{array}{r} -2x \quad -2x \\ \hline 3 < 4x - 9 \\ +9 \quad +9 \\ \hline 12 < 4x \\ \div 4 \quad \div 4 \\ 3 < x \end{array} \quad x > 3$ | $-5x + 30 \geq -x + 8$ $\begin{array}{r} +5x \quad +5x \\ \hline 30 \geq 4x + 8 \\ -8 \quad -8 \\ \hline 22 \geq 4x \\ \div 4 \quad \div 4 \\ 5\frac{1}{2} \geq x \end{array} \quad x \leq 5\frac{1}{2}$ |

| | A | B |
|---|---|---|
| 7 | $26s \leq 3s + 69$ $\begin{array}{r} -3s \quad -3s \\ \hline 23s \leq 69 \\ \hline \frac{23s}{23} \leq \frac{69}{23} \\ s \leq 3 \end{array}$  | $12c + 12 > 48c$ $\begin{array}{r} -12c \quad -12c \\ \hline 12 > 36c \\ \hline \frac{12}{36} > \frac{36c}{36} \\ \frac{1}{3} > c \end{array}$  |
| 8 | $5x - 14 \leq 2x + 7$ $\begin{array}{r} -2x \quad -2x \\ \hline 3x - 14 \leq 7 \\ \hline +14 \quad +14 \\ \hline 3x \leq 21 \\ \hline \frac{3x}{3} \leq \frac{21}{3} \\ x \leq 7 \end{array}$  | $5 - 4z > 17 - z$ $\begin{array}{r} +4z \quad +4z \\ \hline 5 > 17 + 3z \\ \hline -17 \quad -17 \\ \hline -12 > 3z \\ \hline \frac{-12}{3} > \frac{3z}{3} \\ -4 > z \end{array}$  |
| 9 | $2(5 + n) < 6$ $\begin{array}{r} 10 + 2n < 6 \\ -10 \quad -10 \\ \hline 2n < -4 \\ \hline \frac{2n}{2} < \frac{-4}{2} \\ n < -2 \end{array}$  | $-3(d + 2) < -3$ $\begin{array}{r} -3d - 6 < -3 \\ +6 \quad +6 \\ \hline -3d < 3 \\ \hline \frac{-3d}{-3} < \frac{3}{-3} \\ d > -1 \end{array}$  |

10

$$-3b + 9 - 11b < 65$$

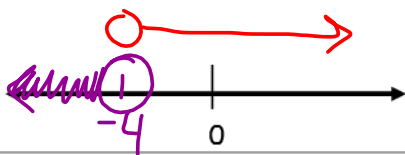
$$-14b + 9 < 65$$

$$\begin{array}{r} \cancel{+9} \quad \cancel{-9} \\ \hline \end{array}$$

$$-14b < 56$$

$$\begin{array}{r} \cancel{-14} > \cancel{-14} \\ \hline \end{array}$$

$$b > -4$$



$$2(5x - 4) \leq 8(x + 1)$$

$$10x - 8 \leq 8x + 8$$

$$\begin{array}{r} \cancel{-8x} \quad \cancel{-8x} \\ \hline \end{array}$$

$$2x - \cancel{8} \leq \cancel{8}$$

$$\begin{array}{r} \cancel{+8} \quad \cancel{+8} \\ \hline \end{array}$$

$$2x \leq 16$$

$$\begin{array}{r} \cancel{2} > \cancel{2} \\ \hline \end{array}$$

$$x \leq 8$$

