

Warm Up – Solve each of the following.

1. $8 - (x + 5) = 6x - 2(x + 8) - 6$

2. $4x + 4 = -2(x + 1) + 6x$

3. $\frac{1}{2}x + 8 = 16$

4. $\frac{x}{5} + 12 = -4$

5. $\frac{1}{3}(9x + 12) = 4x - 2$

Inequalities:

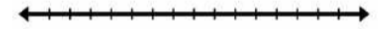
<	>	≤	≥
Example:	Example:	Example:	Example:

Graphing Inequalities:

Ex 1:
Graph $x > 7$



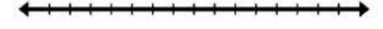
Graph $w \leq 0$



Graph $g < -5$



Graph $z \geq 100$



No Solution	vs.	All Real Numbers
Negative Rule:		

Example 2 – Solve and then graph your answer on a number line.

1. $-11y - 13 > 42$



2. $24 < 8b + 8$



3. $-3(2x + 1) > 9$



4. $-7(k+4) + 11k \geq 8k - 2(2k+1)$ No Solution

$$-7k - 28 + 11k \geq 8k - 4k - 2$$

$$\cancel{4k} - 28 \geq \cancel{4k} - 2$$

$$\underline{-28 \geq -2}$$

5. $2(4r-3) \leq 10 + 8(r-2)$

$$8r - 6 \leq 10 + 8r - 16$$

$$\begin{array}{r} 8r - 6 \leq -6 + 8r \\ -8r \quad -8r \end{array}$$

$$\underline{-6 \leq -6}$$

What if it had $<$ instead?

$$-6 < -6$$

No Solution

6. $4(3t-5) + 7 \geq 8t + 3$

$$12t - 20 + 7 \geq 8t + 3$$

$$\begin{array}{r} 12t - 13 \geq 8t + 3 \\ -8t \quad -8t \end{array}$$

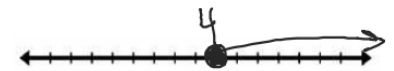
$$\begin{array}{r} 4t - 13 \geq 3 \\ +13 \quad +13 \end{array}$$

7. $5x + 3 \leq 2x + 9$

$$\begin{array}{r} 3x + 3 \leq 9 \\ -3 \quad -3 \end{array}$$

$$\underline{3x \leq 6}$$

$$\underline{x \leq 2}$$



$$\frac{4t \geq 16}{4 \quad 4}$$

$$\underline{t \geq 4}$$



$$\frac{3x \leq 6}{3 \quad 3}$$

$$\underline{x \leq 2}$$