

Do Now:

Step 1: Answer each question below using the directions:

Perform the indicated operation to **both sides** of the inequality
Determine if the inequality sign should remain the same, or be
changed/flipped.

Step 2: We will go through the answers using the polling tool
Socrative.

How to get Socrative on Phone?: Go to m.socrative.com **OR** open the
app Socrative Student on your iPhone/Droid & enter room #690107.

1) $6 < 12$; Add 6

2) $6 < 12$; Subtract 4

3) $6 < 12$; Multiply by 6

4) $6 < 12$; Multiply by -5

5) $6 < 12$; Divide by 3

6) $6 < 12$; Divide by -2

Solve Inequalities

Goal: I am learning to solve inequalities using addition, subtraction,
multiplication & division.

Def: Equivalent Inequalities: Inequalities that have the same
solutions.

Def: Addition Property of Inequality: If $a > b$, then $a + c > b + c$.

If $a < b$, then $a + c < b + c$.

Simple Terms:

Def: Subtraction Property of Inequality: If $a > b$, then $a - c > b - c$.

If $a < b$, then $a - c < b - c$.

Simple Terms:

Def: Multiplication Property of Inequality:

If $a > b$ & $c > 0$, then $ac > bc$. If $a > b$ & $c < 0$, then $ac < bc$.

If $a < b$ & $c > 0$, then $ac < bc$. If $a < b$ & $c < 0$, then $ac > bc$.

Simple Terms:

Simple Terms:

Def: Division Property of Inequality:

If $a > b$ & $c > 0$, then $\frac{a}{c} > \frac{b}{c}$. If $a > b$ & $c < 0$, then $\frac{a}{c} < \frac{b}{c}$.

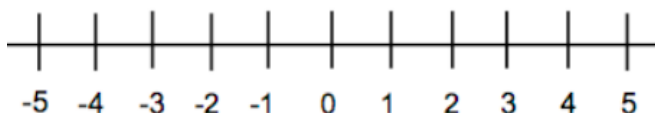
If $a < b$ & $c > 0$, then $\frac{a}{c} < \frac{b}{c}$. If $a < b$ & $c < 0$, then $\frac{a}{c} > \frac{b}{c}$.

Simple Terms:

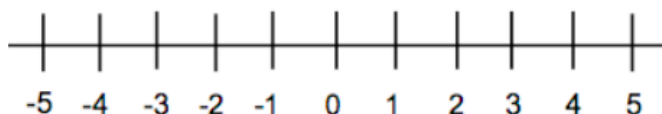
Simple Terms:

Note: All properties are also true for inequalities involving \leq and \geq

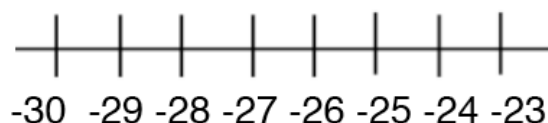
Ex1: Solve $m - 3.8 < -1$. Graph the solution.



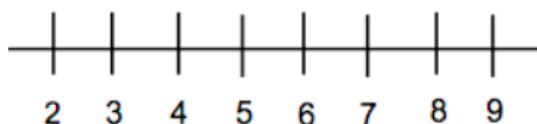
Ex2: Solve $j - 1\frac{3}{4} \leq 2\frac{3}{4}$. Graph the solution.



Ex3: Solve $\frac{y}{7} \geq -4$. Graph your solution.



Ex4: Solve $\frac{x}{-3} > -2$. Graph your solution.



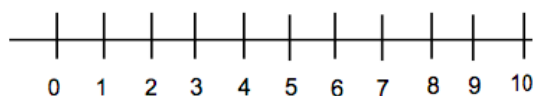
Ex5: Solve $\frac{w}{-3} \leq 1.5$. Graph your solution.



Ex6: Solve $-6x \leq 18$. Graph the solution.



Ex7: Solve $4y > 28$. Graph the solution.



How to get Socrative on Phone?: Go to m.socrative.com **OR** open the app Socrative Student on your iPhone/Droid & enter room #690107. Answer the following questions.

Checkpoints: Solve the inequality. Graph your solution.

1) $k + 12\frac{3}{5} \geq 3\frac{1}{2}$

2) $\frac{m}{8} > -2$

3) $\frac{x}{-4} > 12$

4) $\frac{v}{-7} < 1.6$

5) $5v \geq 45$

6) $-6n < 24$

HW: WS: Inequalities

How to get Socrative on Phone?: Go to m.socrative.com **OR** open the app Socrative Student on your iPhone/Droid & enter room #690107. Answer the following question.

Closure Q: Are $\frac{x}{-4} < -9$ & $x < 36$ equivalent inequalities? Explain.