Algebra 1 - 2.2 & 2.3 Solving One-Step Inequalities

Solving inequalities is identical* to solving regular equations (with one minor change).

If you can solve the one on the left, you can solve the one on the right.

$$x + 9 = 21$$
$$-9 \quad -9$$
$$x = 12$$

$$x + 9 < 21$$
$$-9 \quad -9$$
$$x < 12$$

The one difference is... Every time you Multiply or divide by a Negative, you need to Flip the sign.

Solve & Graph on a number line

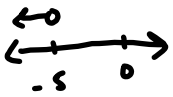
$35 < -7x$

$\frac{}{-7} \quad \frac{}{-7}$

$-5 > x$

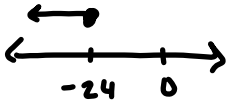
!! Divided both sides by a negative.

flip sign!



$6 \cdot \frac{p}{6} \leq -4 \cdot 6$

$p \leq -24$

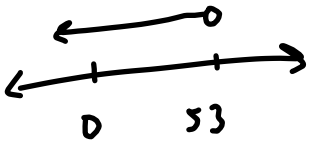


Don't flip the sign. We didn't multiply / Divide by a negative.

$34 > k - 19$

$+19 \quad +19$

$53 > k$

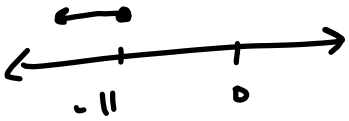


$-x \geq 11$

$\frac{}{-1} \quad \frac{}{-1}$

Flip sign

$x \leq -11$



Problems with like terms:

Solve & Graph on a number line:

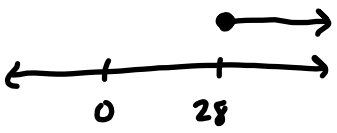
$17 \leq 7 + y - 18$

combine

$17 \leq -11 + y$

$+11 \quad +11$

$28 \leq y$



$4x - 7x > 12$

combine

$-3x > 12$

$\frac{-3x}{-3} > \frac{12}{-3}$ Flip sign!

$x < -4$

Homework:

Page 71

Numbers: 7-9, 17-20, 21-23

Page 77

Numbers: 7-12, 16, 17

Tomorrow will be a work day with a QA at the end of class.