

### 3.1 Solve and Graph Inequalities – Day 1

Inequalities				
Words	- is less than - is fewer than	- is greater than - is more than - exceeds	- is less than or equal to - is no more than - is at most	- is greater than or equal to - is no less than - is at least
Symbols	<	>	≤	≥
Graphing/Shading				
Rule	If you mult/divide by a neg #, flip the symbol.			

Ex 1) Solve each inequality. Then graph each solution set on a number line.

$$\frac{-2x}{-2} \leq \frac{10}{-2}$$

$$x \geq -5$$



$$\frac{-9 + 2a}{-2a} < \frac{3a}{-2a}$$

$$-9 < a$$

$$a > -9$$



$$3 - (x - 5) > 7$$

$$3 - x + 5 > 7$$

$$8 - x > 7$$

$$-x > -1$$

$$18\left(\frac{3}{2}p - \frac{2}{3}\right) \leq \left(\frac{4}{9} + \frac{1}{2}p\right)18$$

$$27p - 12 \leq 8 + 9p$$

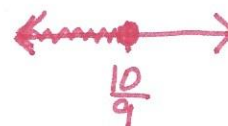
$$18p - 12 \leq 8$$

$$\frac{18p}{18} \leq \frac{20}{18}$$

$$x < 1$$



$$p \leq \frac{10}{9}$$



Ex 2) Translate each phrase into an inequality. Then solve and graph the solution on a number line.

The product of five and a number is no more than 7

$$5n \leq 7$$

The sum of a number and 9 is at most 29

$$n + 9 \leq 29$$