6.2: Solve Inequalities Using Multiplication and Division

Goals:

*Solve Inequalities Using Multiplication and Division

- Be aware of when to reverse the inequality sign.

NEW RULE!!!!!!!!!



Solve and graph each inequality:

Ex: $5 \cdot \frac{x}{4} < 5 \cdot 5$	Ex: $3 \cdot \frac{x}{3} > 8 \cdot 3$	Ex: $-8 \cdot \frac{m}{-8} \le -2 \cdot -8$
<i>x</i> < 20	<i>x</i> > 24	m > 16

Ex:
$$2.5 \cdot \frac{y}{2.5} \ge -4 \cdot 2.5$$

Ex: $-6 \cdot \frac{x}{-6} < 7 \cdot -6$
Ex: $-3x > 24$
 $-3 -3$

$$y \ge -10 \qquad \qquad x > -42 \qquad \qquad x < -8$$

Ex:
$$7 \cdot \frac{y}{7} \ge -4 \cdot 7$$
 Ex: $-6x \le 18$
 Ex: $5v \le -45$
 -6
 -6
 5
 5
 $y \ge -28$
 $x \ge -3$
 $v \le -9$

Here are some trickier ones if you want to graph



Ex: A student pilot plans to spend 80 hours on flight training to earn a pilot's license. The student has saved 6000 for training. Write an inequality to represent *r*, the hour rate the student can afford to pay. What are the possible hourly rates?

$$\frac{80r}{80} \le \frac{6000}{80}$$
$$r \le 75$$

This means that the student could afford to pay an hourly rate of \$75 or less for flight training.