

6.2

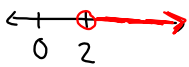
SOLVING INEQUALITIES USING MULTIPLICATION/DIVISION

IMPORTANT NOTE:
IF YOU MULTIPLY OR DIVIDE BY A NEGATIVE #, YOU MUST FLIP YOUR INEQUALITY SIGN!

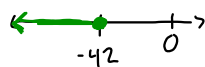
Examples...
 Solve & Graph each Inequality:

1. $6y > 12$ 2. $\frac{x}{7} \leq -6$

$\frac{6y}{6} > \frac{12}{6}$
 $y > 2$



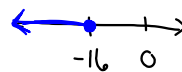
~~$\frac{x}{7} \leq (-6)7$~~
 $x \leq -42$



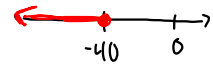
Examples continued...
 Solve and Graph each Inequality:

3. $3y \geq 48$ 4. $\frac{-m}{5} \geq 8$

$\frac{3y}{3} \geq \frac{48}{3}$
 $y \geq 16$



~~$5 \left(\frac{-m}{5} \right) \geq (8)5$~~
 $-1(-m) \geq (40)-1$
 $m \leq -40$



Translate, solve and graph.....

5. The product of -15 and y is less 90.

~~$-15y < 90$~~
 $\frac{-15y}{-15} < \frac{90}{-15}$
 $y > -6$



6. The quotient of w and 24 is greater than or equal to -1/6.

~~$\frac{w}{24} \geq \left(-\frac{1}{6}\right)24$~~
 $w \geq -4$



7. Word Problem Practice...

Road Trip You and three of your friends plan to rent a car for a road trip. The group budget is \$350. The group decides to split the cost of the rental equally.

- Write and solve an inequality that gives the cost c in dollars that each person will pay.
- What is the greatest amount of money that each of you can spend?

$4c \leq 350$
 $\frac{4c}{4} \leq \frac{350}{4}$
 $c \leq \$87.50$