Name:_____   Date:_____
Notes
Algebra Section 6.2
Pages 363-368

Goal: "You will solve inequalities using multiplication and division."

If you <u>multiply</u> or <u>divide</u> by a <u>negative,</u> you must <u>reverse</u> the <u>inequality sign!!!</u>

Ex: $\dfrac{x}{4} < 5$

$x < 20$

open pointing left

Ex: $\dfrac{x}{3} > 8$

$x > 24$

open pointing right

Ex: $\dfrac{m}{-8} \le -2$

$m \ge 16$

closed pointing right

Ex: $\dfrac{y}{2.5} \ge -4$

$y \ge -10$

closed pointing right

Ex: $\dfrac{x}{-6} < 7$

$x > -42$

open pointing right

Ex: $-3x > 24$

$x < -8$

open pointing left

Ex: $\dfrac{y}{7} \ge -4$

$y \ge -28$

closed pointing right

Ex: $-6x \le 18$

$x \ge -3$

closed pointing right

Here are some trickier ones if you want to graph

Ex: $12 < \dfrac{x}{-4}$

$-48 > x$

open, pointing left

Ex: $16 > \dfrac{m}{-7}$

$-112 < m$

(open, pointing right)

Ex: $5v \leq -45$

$v \leq -9$

closed pointing left

Ex: $24 \geq -6n$

$-4 \leq n$

closed pointing right

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?

$80r \leq 6000$

$r \leq 75$

$75/hour or less