Algebra Bellwork - November 2, 2011

Emilio earns $9 an hour as a cook. Write and solve an inequality to find how many full hours he must work to earn at least $100.

What percentage of men pick their nose while driving? 33%!

Emilio earns $9 an hour as a cook. Write and solve an inequality to find how many full hours he must work to earn at least $100.

x = hours worked

$9x \geq 100$

$x \geq 11.\overline{1}$ hours

$x \geq 12$ hours

Objective: Today we will solve and graph **Inequalities** using the multiplication/division properties of inequality.

Language Objective: Today we will **read** and **write** solutions to word problems using Inequalities.

>, <, or = ?

$4 \cdot 3 > 1 \cdot 3$	$4 \cdot -1 > 1 \cdot -1$
$4 \cdot 2 > 1 \cdot 2$	$4 \cdot 3 > 1 \cdot 3$
$4 \cdot 1 > 1 \cdot 1$	$12 > 3$
$4 \cdot 0 = 1 \cdot 0$	$4 > 1$
$4 \cdot -1 < 1 \cdot -1$	$4 > 1$
$4 \cdot -2 < 1 \cdot -2$	$-4 < -1$
$4 \cdot -3 < 1 \cdot -3$	

Rule:

When you multiply or divide by a negative number: flip the sign.

Solve and graph the solution

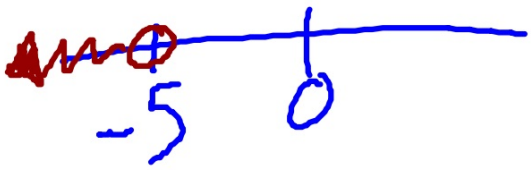
$2 - 2x > 12$

$-2 \quad -2$

$-2x > 10$

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

$x < -5$



$$\left(-\frac{4}{3}\right)\cdot -\frac{3}{4}x \leq 6\left(-\frac{4}{3}\right)$$

$$\boxed{x \geq -8}$$

olve each inequality. Graph and check your solution.

1. $\frac{t}{4} \geq -1$	**2.** $\frac{s}{6} < 1$	**3.** $1 \leq -\frac{w}{2}$	**4.** $2 < -\frac{p}{4}$
5. $-2 < \frac{y}{2}$	**6.** $-\frac{v}{3} \geq 0.5$	**7.** $4 > \frac{2}{3}x$	**8.** $-5 \leq \frac{5}{2}k$
9. $0 < -\frac{7}{8}x$	**10.** $\frac{4}{3}y \geq 0$	**11.** $-\frac{5}{7}x > -5$	**12.** $6 \geq -\frac{3}{2}d$
3. $-\frac{4}{9} < \frac{2}{3}c$	**14.** $\frac{3}{4}b \geq -\frac{9}{8}$	**15.** $-\frac{5}{3}u > \frac{5}{6}$	**16.** $-\frac{5}{8} > -\frac{5}{6}n$

$\frac{t}{4} \geq -1 \cdot 4$

$t \geq -4$

p. 139

#1-15 odds

#31, 32