January 9, 2012

Get out homework to correct

1/9 - Solving One-Step Multiply/Divide Inequalities

Sometimes the inequality needs to switch...

$5 < n$ *becomes* $n > 5$

Variable must be first!

There are 2 other times...

$2 < 3$	*right?*
$-1 \cdot 2 < 3 \cdot -1$	*times both sides by* -1
~~$-2 < -3$~~	~~*WRONG!*~~
$-2 > -3$	*Switch the inequality sign*

When you **multiply** both sides by a negative number, switch the inequality sign!

Examples of the first kind:

$$\frac{n}{-2} < 4 \cdot -2$$

$$n > -8$$

$$\frac{d}{4} \leq -10 \cdot 4$$

$$d \leq -40$$

$$\frac{c}{-5} \geq -8 \cdot -5$$

$$c \leq 40$$

$$6 > \frac{x}{-3} \cdot -3$$

$$-18 < x$$

$$x > -18$$

Here is the second time:

$4 < 6$ *right?*

$\frac{4}{-2} < \frac{6}{-2}$ *divide both sides by* -2

~~$-2 < -3$~~ ~~*WRONG!*~~

$-2 > -3$ *Switch the inequality sign*

When you **divide** both sides by a negative number, switch the inequality sign!

More examples:

$-2n > 6$

$\frac{-2n}{-2} > \frac{6}{-2}$

$n < -3$

$6x \geq -24$

$\frac{6x}{6} \geq \frac{-24}{6}$

$x \geq -4$

$18 \leq -3c$

$\frac{18}{-3} \leq \frac{-3c}{-3}$

$-6 \geq c$

$c \leq -6$

$-20 < 4d$

$\frac{-20}{4} < \frac{4d}{4}$

$-5 < d$

$d > -5$

Change the inequality sign when:

1. you exchange sides
2. you multiply both sides by a negative number
3. you divide both sides by a negative number

Homework

Yellow Worksheet WS3

Due: Wednesday