Alg1

February 3, 2012

Get out your Lavender Review WS

2/3 - Solving One-Step Inequalities

Equations

Add # to both sides
Subtract # from both sides
Multiply both sides by #
Divide both sides by #
Switch sides
Change the signs of both sides

already know

Inequalities

Add # to both sides
Subtract # from both sides
Multiply both sides by #
Divide both sides by #
Switch sides
Change the signs of both sides

All RED rules:
you MAY need to change the inequality sign.

$-2 < 5$ *right*?

Now switch sides:

$5 < -2$??? *No*!

$5 > -2$ *Yes*!

$4 < 6$ *right?*

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

$-2 < -3$ *WRONG!*

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

$2 < 3$ *right?*

$-1 \cdot 2 < 3 \cdot -1$ *times both sides by* -1

$-2 < -3$ *WRONG!*

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

$10 > -4$ *right*?

Now change the signs of both sides:

$-10 > 4$??? *No*!

$-10 < 4$ *Yes*!

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
4. you change the signs of both sides

Do you change the inequality sign or not?

$-7 < 8 + x$ — -8 -8 No

$-11 + n \leq -17$ — No

$\frac{-30}{-3} > \frac{-3v}{-3}$ — Yes

$14 \cdot 13 \geq \frac{x}{14} \cdot 14$ — No

Solve each:

$$-8x > 56$$

$\div -8 \quad \div -8$

$x < -7$

÷ by a negative so switch the sign

$$-11 + n \leq -17$$

$+11 \quad +11$

$n \leq -6$

$$\frac{x}{-12} \geq -4$$

$\cdot -12 \quad \cdot -12$

$x \leq 48$

mult. by a negative so switch the sign

$$-7 < 8 + x$$

$-8 \quad -8$

$-15 < x$

Solve each:

$x - 2 \geq 15$

$+2 \quad +2$

$x \geq 17$

$\frac{-36}{-3} > \frac{-3x}{-3}$

$12 < x$

$-27 > x - 7$

$+7 \quad +7$

$-20 > x$

$-7 \cdot 2 < \frac{n}{-7} \cdot -7$

$-14 > n$

HOMEWORK

Salmon Inequalities WS1

Due Monday