Do Now:

In a game of disc golf, the target is beyond a pond the far end of which is 300 feet away. Your first throw travels 134 feet. How far does your second throw have to go in order to clear the pond?

$134 + x \geq 300$
$-134 \quad -134$
$x \geq 166$ ft
At least 166 ft

Oct 23-10:40 AM

#31, 23, 25, 14-16
$x > -4$
#14-16
-6 -5 -4 -3 -2 -1 0 1 2
14) -4.5 No 15) -4 No 16) $2\frac{1}{2}$ Yes

Oct 26-9:23 AM

(23) $5 < 8 + t$
$-8 \quad -8$
$-3 < t$
$t > -3$
Keep variable on the left
-4 -3 -2

(25) $r + 17 \geq 25$
$-17 \quad -17$
$r \geq 8$
7 8 9

Oct 26-9:27 AM

(31) $33.96 + x \geq 50.00$
$-33.96 \quad -33.96$
$x \geq \$16.04$

Oct 26-9:31 AM

Do Now: Solve the equation.

1.) $\frac{x}{8} = 2$

2.) $-6 = \frac{n}{6}$

3.) -4j = 56

4.) -91 = -13k

Nov 7-8:15 AM

3.7 Solving Inequalities Using Multiplication or Division

7.NS
7.EE

- SWBAT solve inequalities using multiplication or division.
- SWBAT write a verbal sentence as an equation.
- SWBAT represent situations using algebraic symbols; analyze situations using algebraic symbols.

- Calculators: No

Oct 20-10:59 AM

Multiplication Property of Inequality

Multiplying by a positive: multiplying each side of an inequality by a positive number produces an equivalent inequality.

If $a < b$ and $c > 0$, then $ac < bc$.

same inequality symbol

Nov 7-8:17 AM

Multiplying by a negative: multiplying each side of an inequality by a negative number and reversing the direction of the inequality symbol produces an equivalent inequality.

If $a < b$ and $c < 0$, then $ac > bc$

negative

multiply by a negative so "flip" inequality symbol

Oct 20-11:31 AM

Solve the inequality.

$\frac{t}{6} \geq (4)\,6$

divide by 6

Keep

$t \geq 24$

Multiply by a positive 6 so keep inequality the same

Nov 7-8:20 AM

Solve the inequality. $\frac{t}{6}$ is same as $\frac{1}{6}t$

$\frac{1}{6}t \geq (4)\,6$

$t \geq 24$

Oct 19-12:08 PM

Solve the inequality.

$-\frac{1}{2}f + 12 \leq 22$

$-12 \quad -12$

$-\frac{1}{2}f \leq 10$

$\cdot \frac{2}{-1}$

Multiply by a negative so FLIP

$f \geq -20$

Oct 19-12:09 PM

Solve the inequality.

$-\frac{1}{8}n - 44 \geq -19$

$+44 \quad +44$

$-\frac{1}{8}n \geq 25$

$\cdot \frac{8}{-1}$

$\frac{200}{-1}$

$n \leq -200$

Nov 7-8:20 AM

Division Property of Inequality

Dividing by a positive: dividing each side of an inequality by a positive number produces an equivalent inequality.

If $a < b$ and $c > 0$, then $\frac{a}{c} < \frac{b}{c}$

Nov 7-8:17 AM

Dividing by a negative: dividing each side of an inequality by a negative number and reversing the direction of the inequality symbol produces an equivalent inequality.

If $a < b$ and $c < 0$, then $\frac{a}{c} > \frac{b}{c}$

Oct 20-11:31 AM

Solve the inequality.

$\frac{9n}{9} < \frac{63}{9}$ ← dividing by a positive

Keep

KEEP SAME INEQUALITY

$n < 7$

Oct 19-12:11 PM

Solve the inequality.

$15 \geq -3m$

Right side (FLIP)

$\frac{-3m}{-3} \leq \frac{15}{-3}$ FLIP

$m \geq -5$

Nov 7-8:22 AM

Solve the inequality.

$-60 > -13 + 5a$ FLIP

Right side (FLIP)

$-13 + 5a < -60$

$+13 \quad +13$

$\frac{5a}{5} < \frac{-47}{5}$ SAME

$a < \frac{-47}{5}$

Nov 7-8:22 AM

Solve the inequality.

$-3t - 37 \leq -27$

Oct 19-12:12 PM

An elevator can hold a maximum of 2000 pounds. The average weight of a person is 150 pounds. Let p be the number of people the elevator can hold.

a.) Write and solve an inequality involving multiplication that models the situation.

Nov 7-8:26 AM

b.) What does the answer tell you about the number of people who can ride in the elevator?

Oct 19-12:14 PM

Exit Pass 3.7

Decide whether the solution strategy will require reversing the inequality symbol.

1. $3x < 18$ Divide each side by 3.

2. $-6x \geq 24$ Divide each side by -6.

Nov 7-10:19 AM

"Don't blame the sea if you cannot catch a fish."

Working individually or with a partner, complete the workbook.

Workbook pg. 43 #1-6, 13-15, 18, 22, 26

Oct 20-11:32 AM

Reflection of Today's Lesson

3.7 Solving Inequalities Using Multiplication or Division

7.NS
7.EE

- SWBAT solve inequalities using multiplication or division.
- SWBAT write a verbal sentence as an equation.
- SWBAT represent situations using algebraic symbols; analyze situations using algebraic symbols.

- Calculators: No

Oct 19-12:15 PM

Homework

pg. 148-149 #9-24, 27, 29, 35

Nov 7-10:21 AM