

**Do Now:** Write and solve the inequality.

1. A number divided by 4 is at most 8.  $m \leq 32$

2. Negative 7 times a number is no more than negative 35.  $-7k \leq -35$   $k \geq 5$

3. Three times a number is more than -18.  $3x > -18$   $x > -6$

4. You need to read at least 105 pages of a book for your English class in the next 7 days. How many pages should you read each day?

$$\frac{7 \cdot p}{7} \geq \frac{105}{7}$$

KEEP ← Divide by a positive

$$p \geq 15$$

You should read at least 15 pages each day.

28

$$9x > -45$$

$$\frac{9x}{9} > \frac{-45}{9}$$

FLIP but were not suppose to!

$$x > -5$$

Divided by a positive

$$x > -5$$

36

$$\frac{375c}{375} \leq \frac{7500}{375}$$

$$c \leq 20$$

a) Move 20 crates or less  
b) Make 3 trips.

38

$$\frac{5a}{5} \geq \frac{45}{5}$$

$$a \geq 9$$

(At least 9 mph)

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

$$\frac{150p}{150} = \frac{2,000}{150}$$

$$p \leq 13.\bar{3}$$

At most 13 people  
on the elevator

### Exit Pass 3.5

Explain the difference between the solutions of  $2x > -14$  and  $-2x > 14$ .

$$\frac{2x}{2} > \frac{-14}{2}$$

KEEP

$$x > -7$$

$$\frac{-2x}{-2} > \frac{14}{-2}$$

FLIP

$$x < -7$$

### 3.6 Solving Multi-Step Inequalities

7.NS  
7.EE

- SWBAT solve multi-step inequalities.
- SWBAT represent situations using algebraic symbols; analyze situations using algebraic symbols.

- Calculators: No

NMS's soccer team is trying to break the school record for goals scored in one season. The team has already scored 88 goals this season. The record is 138 goals. With 10 games remaining on the schedule, how many goals, on average, does the team need to score per game to break the record?

$$\begin{array}{r} 88 + 10g > 138 \\ -88 \quad -88 \\ \hline \end{array}$$

$$\frac{10g}{10} > \frac{50}{10}$$

$$g > 5$$

More than 5 goals per game.

6 goals or more per game.

Solve and graph the solution:

$$-6 \geq -\frac{g}{5} - 2$$

FLIP so  
variable is on left!

$$\frac{g}{-5} - 2 \leq -6$$

$$\frac{-5}{1} \left( \frac{g}{-5} \right) \leq (-4)(-5)$$

$$g \geq 20$$



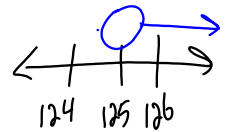
Solve and graph the solution:

$$\frac{13}{1} \left( \frac{x-8}{13} \right) > (9) 13$$

$$\begin{array}{r} 2 \\ 13 \\ \times 9 \\ \hline 117 \end{array}$$

$$x - 8 > 117$$

$$x > 125$$



Solve and graph the solution:

$$4(5 - 3b) \leq 4b + 4$$

Solve and graph the solution:

$$1. \quad 24 < \frac{-5k + 7}{10}$$

$$2. \quad 3y - 5 < 2(17 - 5y)$$

An dance group charges \$15 for membership. Members pay \$8 for admission to monthly dances, and nonmembers pay \$12. How many dances does D'Aja need to attend for the cost of membership to be less than paying as a nonmember?

Dahvin and Elijah join different health clubs. Dahvin pays a one-timefee of \$150 and a monthly fee of \$35. Elijah pays a one-time membership fee of \$100 and a monthly fee of \$40. How many months do Dahvin and Elijah need to be members of their health clubs before Dahvin has paid less than Elijah?

**Exit Pass 3.6**

Write and solve the inequality for the verbal sentence:

five plus two times a number is at least twenty

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

Working individually or with a partner, complete the workbook.

**Workbook pg. 41**



**Reflection of Today's Lesson****3.6 Solving Multi-Step Inequalities**

7.NS  
7.EE

- SWBAT solve multi-step inequalities.
- SWBAT represent situations using algebraic symbols; analyze situations using algebraic symbols.

- **Calculators: No**

**Homework**

pg. 151 #10-30 evens

