

Agenda

- 1) Push desks in to groups of 4
Take out HW for credit
Check HW in groups **(10 min)**
- 2) DO NOW - in groups/ up on board **(10 min)**
- 3) Move desks back into pairs
- 4) 2.3 Inequality Word Problems
 - 1 & 3 w/ me **(10 min)**
 - 2 & 4 on your own **(10 min)**
- 5) Exit Slip **(10 min)**

Homework: P. 71 # 3, 5, 7, 9
P. 72 Mixed Review #7-10,
Self-Test 1 #6

DO NOW:

Translate each sentence into an inequality:

Phrase	Translation
x is at least a . x is no less than a .	
x is at most b . x is no greater than b .	
x is between a and b . x is between a and b , inclusive.	

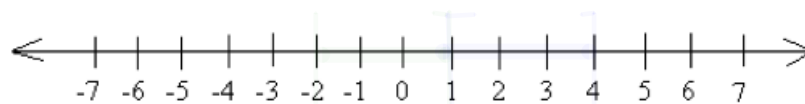
If you're finished with the table above, try graphing this **bonus problem**...

$$0 < 1 - x \leq 3 \text{ or } -1 \leq 2x - 3 \leq 5$$

$$-1 < -x \leq 2 \text{ or } 2 \leq 2x \leq 8$$

$$1 > x \geq -2 \text{ or } 1 \leq x \leq 4$$

$$-2 < x \leq 1 \text{ or } 1 \leq x \leq 4$$



2.3 Problem Solving With Inequalities

Objective: To Solve word problems by using inequalities in one variable.

1) To vote in the U.S., a citizen must be 18 years of age or older.

a) Define the variable:

b) Write an inequality that describes the age in years of voters in the U.S.

c) Graph the solutions.

2) By order of their fire commissioner, the capacity of a local diner is not to exceed 75 people.

a) Define the variable:

b) Write an inequality for the capacity of the diner:

c) Graph the solutions.

3) The Senior Class is raising money to help pay for prom. They are selling T-shirts for \$15 each. If they want to make at least \$2,000 on the T-shirt sale, how many T-shirts do they need to sell?

a) Define the variables. What is the independent variable? The dependent variable?

b) Use a table to model the situation:

c) Write an equation that models the pattern you see in the table:

d) Write an inequality for the amount of money raised.

e) Solve the inequality and determine how many T-shirts must be sold to meet (or exceed) their \$2,000 goal.

f) Write a conclusion.

4) John's family plows snow during the winter. They charge \$35 each time they plow someone's driveway. The family has a goal to earn at least \$10,000 this winter.

Write an inequality to represent the total amount earned, T , based on the number of driveways plowed, d .

a) Define the variables. What is the independent variable? The dependent variable?

b) Use a table to model the situation:

c) Write an equation that models the pattern you see in the table:

d) Write an inequality for the amount of money earned.

e) Solve the inequality and determine how many driveways they must plow to reach their goal of \$10,000 earned.

f) Write a conclusion.

If you want more of a challenge, try these!

Find all sets of 4 consecutive integers whose sum is between 10 and 20.

A bus is to be chartered for the senior class trip. The basic fare is \$9.50 per passenger. If more than 20 people go, everyone's fare is reduced by \$.30 for each passenger over this number (20). *At least* how many people must go to make the fare less than \$7.50 per passenger?

Homework: P. 71 # 3, 5, 7, 9
P. 72 Mixed Review #7-10, and Self-Test 1 #6