

## Writing Inequalities from Word Problems

Name \_\_\_\_\_  
Date \_\_\_\_\_ Class \_\_\_\_\_

Use the questions to help you write an inequality for each problem.

- 1) In order to make a reservation at Houston's Restaurant, you must have a group of at least 6 people. Write an algebraic inequality.

$=$  • Can there be 6 people? yes  
 $>$  • Can there be more than 6? yes  
       • Can there be less than 6? no

$n \geq 6$

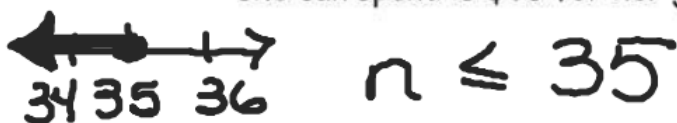
- 2) The Browns have 7 members in their family. They are looking to buy a new car. They need one that will carry at least all seven family members. Write an algebraic inequality.

$=$  • Can it carry 7 people? yes  
       • Can it carry less than 7? no  
 $>$  • Can it carry more than 7? yes

$n \geq 7$

Using similar questions as those in problems 1 and 2, write an inequality for each situation. Graph each solution.

- 3) Susan wants to get new jeans. She has \$35 to spend. The most she can spend is \$35 for her jeans.



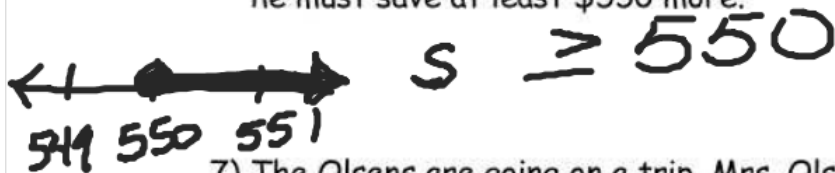
- 4) Tom can have at most 4 friends to spend the night.



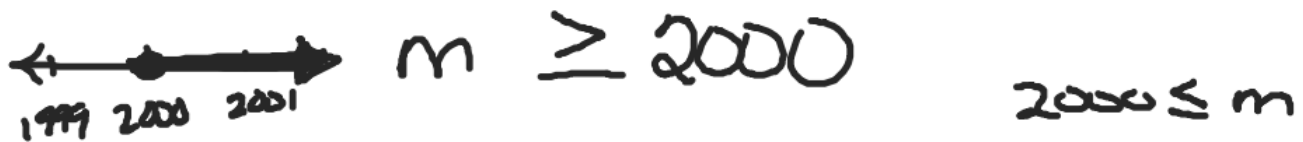
- 5) In order to make an A in math, Charlie has figured out he must make at least a 92 on his final exam.



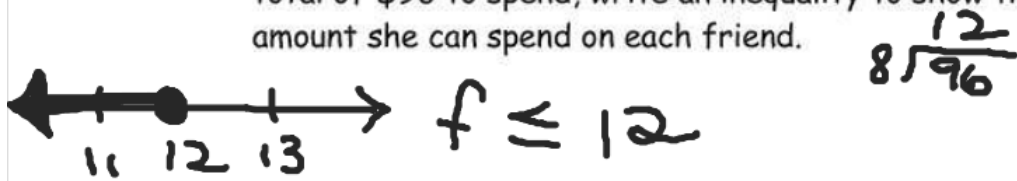
- 6) Jason wants a new guitar that costs \$900. He must buy it for himself. He has \$350 in savings. In order to purchase the guitar he must save at least \$550 more.



- 7) The Olsens are going on a trip. Mrs. Olsen has figured that for each family member to go it will cost \$500. There are 4 members in the family. Write an inequality to show the least amount of money they must have for all four family members to go.



- 8) Allison is figuring out how much she will spend on each friend for the holidays. She wants to buy gifts for 8 friends. If she has a total of \$96 to spend, write an inequality to show the greatest amount she can spend on each friend.



- 9) Tom is going camping with 10 guys for the weekend. He is responsible for bringing the hamburgers for lunch. If each person gets one hamburger, write an inequality for the least number of hamburgers he needs to bring.



- 10) To ride the Batman ride at Six Flags you must be at least 52 inches tall. Write an inequality to show how tall you must be.




## Using Inequalities to Solve

Snow Fun rents snowboards for \$12 plus \$2.50 per hour. For how many hours can you rent a snowboard if you want to spend no more than \$27?

$$\begin{array}{r} 12 + 2.5h \leq 27 \\ \underline{-12} \qquad \qquad \underline{-12} \\ 2.5h \leq 15 \\ \underline{2.5} \qquad \qquad \underline{2.5} \\ h \leq 6 \end{array}$$

$12 + 2.5h \leq 27$



check: 5 6 7  
 $12 + 2.5(0) \leq 27$   
 $12 + 0$   
 $12 \leq 27 \checkmark$

Allison receives a gift card at Target for \$35. She has spent \$13 already. Write an inequality to determine the amounts she can spend without exceeding the gift card amount. Then, solve, graph and check the amount.

$$n + 13 \leq 35$$

$$n \leq 22$$

$$13 + b \leq 35$$

Marty weighs 120 lb. He is loading a freight elevator with identical 55-pound boxes. The elevator can carry at most 1000 pounds. If Marty rides on the elevator with the boxes, how many boxes can be loaded on the elevator?

$$120 + 55b \leq 1000$$

$$120 + 55n \leq 1000$$

The neighborhood carnival costs \$5 for admission plus \$0.75 for each game. How many games can you play if you want to spend less than \$14?

$$5 + .75g < 14$$

Stacy sold 3 cookbooks. To earn a prize, she must sell at least 12 cookbooks. Write an inequality to show the amounts she must sell to earn a prize.

$$3 + c \geq 12$$

$$3 + c \geq 12$$

Maria has 5 CD's. Together, she and her sister have at most 17 CD's. Write an inequality to show how many CD's her sister can have.

$$5 + s \leq 17$$

$$5 + n \leq 17$$