

Name: _____

Unit 3

Date: _____

WS #2 Solving Inequality word Problems

1. Read carefully and underline key words
2. Write a Let statement [e.g. let $x = \dots$], include the domain
3. Determined whether to use the $=$, $>$, $<$, $\geq$ or $\leq$ sign
4. Write and solve the inequality

25	100

_____ 1) In order to be admitted for a certain ride at an amusement park, a child must be greater than or equal to 36 inches tall and less than 48 inches tall. Which graph represents these conditions?



_____ 2) Which statement is modeled by $2p + 5 < 11$?

- (1) The sum of 5 and 2 times p is at least 11.
- (2) Five added to the product of 2 and p is less than 11.
- (3) Two times p plus 5 is at most 11.
- (4) The product of 2 and p added to 5 is 11.

_____ 3) Which is NOT a solution of the inequality $5 - 2x \geq -3$?

- (1) 0 (2) 2 (3) 4 (4) 5

_____ 4) Which statement can be modeled by $x + 3 \leq 12$?

- (1) Sam has 3 bottles of water. Together, Sam and Dave have at most 12 bottles of water.
- (2) Jennie sold 3 cookbooks. To earn a prize, Jennie must sell at least 12 cookbooks.
- (3) Peter has 2 baseball hats. Peter and his brothers have fewer than 12 baseball hats.
- (4) Kathy swam 3 laps in the pool this week. She must swim more than 12 laps.

5) Jason is saving up to buy a digital camera that costs over \$490. So far, he saved \$175. He would like to buy the camera 3 weeks from now.

Write an inequality to represent how much he must save every week to have enough money to purchase the camera?



6) Two-thirds of a number plus 5 is greater than 12. Give an interval for the possible numbers.

7) Three times a natural number decreased by 8 is no more than the number increased by 4. List all possible values for the number.

8) The cost of a gallon of orange juice is \$3.50. What is the maximum number of containers you can buy for \$15?



9) Keith and Michelle went out to dinner. They each spent an equal amount. The total cost of their meals, including the tip, was less than \$53.70. If their combined tip was \$9.60, how much did each friend pay, not including the tip?

10) Mariam works in New York City and makes \$42 per hour. She works in an office and must get her suit dry cleaned everyday for \$75. If she wants to make more than \$260 a day, *at least* how many hours must she work?

11) Your local bank offers free checking for accounts with a balance of at least \$500. Suppose you have a balance of \$516.46 and you write a check for \$31.96. How much do you need to deposit to avoid being charged a service fee?