

Name: _____

Date: _____

Notes

Algebra Section 1.4

Pages 21-26

Goals: "I will translate verbal sentences into equations or inequalities"
"I will decide if a given value is a solution to an equation or inequality"



Vocabulary:

Inequality: _____

Writing an equation or inequality

Math Verbs:

Try These:

Write the equation or inequality. For each inequality give at least one value that will make the statement true.

"The difference between 12 and a number k is 8." _____

"The quotient of a number p and 12 is 3." _____

"The quotient of a number p and 12 is at least 3." _____

"The sum of a number y and 15 is at most 5." _____

"The product of 7 and a number q is more than 10." _____

"The sum of a number and 12 is less than 18" _____

"Your math grade, g , needs to be at least a 75" _____

Solution (of an equation or inequality):

Determine if the number listed is a SOLUTION to the equation or inequality.

Example 1:

$$3 + 2x = 15 \quad x=3$$

Input the value $3 + 2 \cdot 3 = 15 \quad x=3$

Simplify $3 + 6 = 15$

$$9 = 15$$

Check Does $9=15$? No! This **is not** a solution of the equation!

Example 2:

$$12 < 4x - 5 \quad x=7$$

Input the value $12 < 4 \cdot 7 - 5 \quad x=7$

Simplify $12 < 28 - 5$

$$12 < 23$$

Check Is $12 < 23$? Yes! This **is** a solution of the inequality.

Try These:

a) $8 - 2x = 2 \quad x = 3$

b) $2z + 5 \geq 12 \quad z = 1$

c) $4 < 7 - q \quad q = 3$

d) $18 > 2x - 3 \quad x=4$

Check whether the given number is a solution: (the number given comes after the semi-colon)

a) $9 - x = 4; 5$

b) $b + 5 < 15; 7$

Combining inequalities:

There will be two signs.

Example:

A number n is greater than 5 and less than 13

$$5 < n < 13$$

Try These:

a) x is greater than 3 and less than 9

b) A number y is no less than 5 and no more than 13

c) A number q is at least 5 and less than 17

Word Problems:

a) The last time you and 3 friends went to a mountain bike park, you had a coupon for \$10 off the total purchase and paid \$17 for 4 tickets. What is the regular price for the 4 tickets? What is the regular price of 1 ticket?

b) A basketball player scored 351 points last year. If the player plays 18 games this year, will an average of 20 points per game be enough to beat last year's total?

c) Tyler would like to make no less than \$610 selling coffee mugs online. If he sells 28 mugs for \$22 each, will he achieve his goal?