Warm Up

Solve for x and graph your solutions on a number line.

$$3(4x-2) + 5 > 4 - 7(3 - 2x)$$

$$Nx - 6 + 5 > 4 - 21 + 14x$$

$$-Ny - 12x$$

$$-6 + 5 > 4 - 21 + 14x$$

$$-12x$$

$$-6 + 5 > 4 - 21 + 14x$$

$$-12x$$

$$-17 - 17 + 2x$$

$$-17 - 17 + 2x$$

$$+17 + 17$$

$$16 > 2x$$

$$2 = 2$$

$$8 > x$$

$$-5 = 2$$

4/29







5/1

What is a function?

A function in algebra is an equation where any x-value can be put into the equation to produce <u>exactly one</u> y value.



We have been dealing with functions all year!

What functions have we worked with? Linear Exponential

Let's check when x = 2



How can we tell if a relationship is a function?

| 2 | table- | | | | | |
|--|--|--|--|--|--|--|
| Review the columns. The relation will not be function if any X-Value | | | | | | |
| | corresponds to more than one different | | | | | |
| | <u> </u> | | | | | |

| Function | | | | |
|----------|----|--|--|--|
| x | У | | | |
| -2 | -2 | | | |
| -1 | 2 | | | |
| 0 | 6 | | | |
| 1 | 10 | | | |
| 2 | 14 | | | |

| x | Y | |
|----|----------------|--|
| -4 | -4 | |
| -2 | -2 | |
| 1 | , 0 | |
| 1 | → 1 | |

Not a Function

| Function | | |
|----------|----|--|
| x | У | |
| -3 | 6 | |
| -2 | 0 | |
| -1 | -4 | |
| 0 | -6 | |
| 1 | -6 | |
| 2 | -4 | |
| 3 | 0 | |
| 4 | 6 | |

No repeating X-Values





How about these?





Instead of ordered pairs being listed in a table they are listed with commas between them.

$$\{(3, 3), (4, -1), (2, 3)\}$$
 Function
OK to have
same y-values
 $\{(1, 8), (0, -2), (1, -3)\}$

Not a function





How about these?

Function



Not a Function



Is it a Function?

Only if ...

Every x-value is assigned to ONLY ONE y-value.





Functions can have different "names." You will notice below that we have functions f, g, h, and j.

When we want to know given function a, what is the value when x = 2, we write a(2), substitute 2 in for x and then solve.

Example:

Our function is: a(x) = 5x - 4

$$a(\mathbf{2}) = 5(\mathbf{2}) - 4$$

= 10 - 4
= 6

If you were to plot this point on a graph it would be (2, 6). It is the same as asking what is the value of y when x = 2.

Evaluate the following expressions given the functions below:

| g(x) = -3x + 1 | $f(x) = x^2 + 7$ | $h(x) = \frac{12}{x}$ | $\mathbf{j}(\mathbf{x}) = 2\mathbf{x} + 9$ |
|------------------|------------------|-----------------------|--|
| a. g(10) |) = | | |
| b. f(3) = | = | | |
| c. h(-2) |) = | | |
| d. j(7) = | = | | |
| e. h(a) | | | |



Introduction to Graphs and Functions: Determining Whether a Relation is a Function

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FINDING UNKNOWN ANGLE MEASURES #2

Directions: For each set of parallel lines, you are given the measure of one angle. Use your knowledge of parallel lines and transversals to find the measures of each other angle. 30 150 Example: Given an angle of 150° 30° 150 30 150 150 140 1) 2) 50 ? ? ? 3) ? 78 4) 92° ? ? ? 9 ? ? ? ? ? 90° 5) 6) ? ? 9 ? 65° ? ? ? ? 9 ? ? 61.5 7) 8) ? ? 110° ? ? ?

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Name_

FINDING UNKNOWN ANGLE MEASURES-CONGRUENT ANGLES-#3

Directions: Find the measure of each missing angle in the parallel lines and transversals below. Each pair of angles are either *vertical angles*, *alternate angles*, or *corresponding angles*; so they are congruent. All you have to do is set up and solve an equation where the expressions are congruent. Once you've solved for x, plug that value back into each expression to find the measure of each angle.





Find the value of x that makes j II k.









Determine the missing angles,



67°

а



19.



Exterior Angle Theorem



Homework

Finish Angles Packet