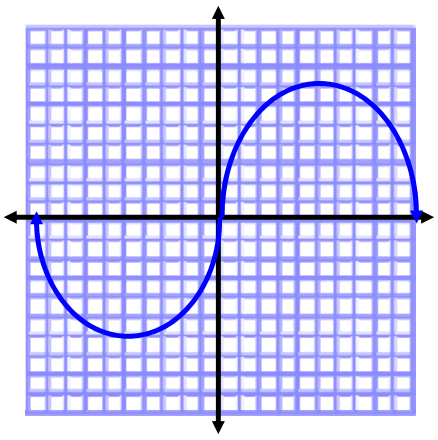
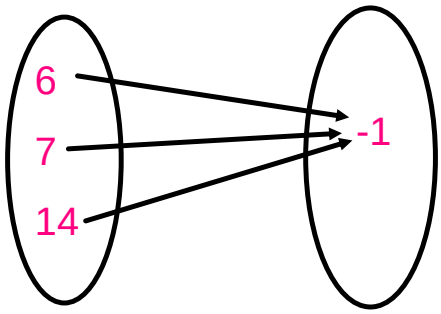
Warm-Up 8/24

Determine if the following are functions. Explain your reasoning.

1. 

2. 

3. (-3, 4), (4, 15) , (-3, 4) , (5, 23)

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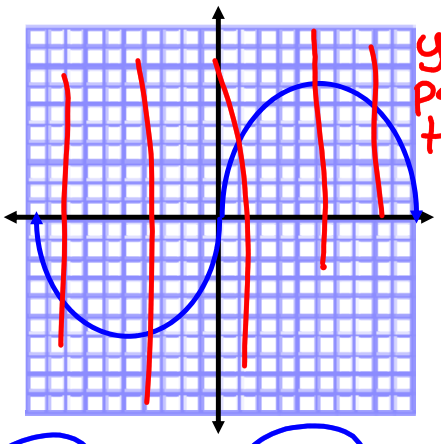
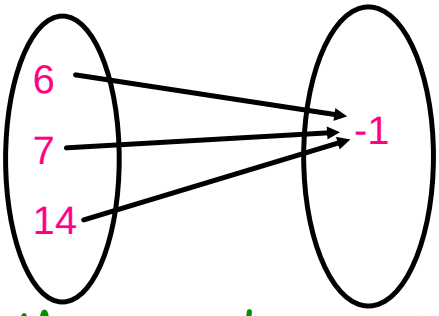
1. 

yes passes the VLT

2. 

yes, each input has exacty one output

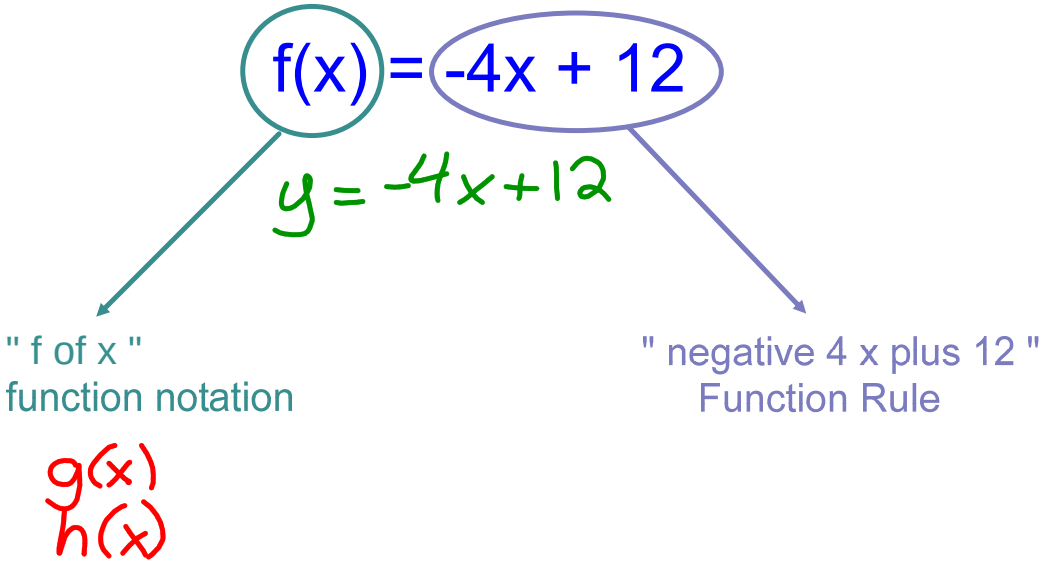
3. (-3, 4), (4, 15), (-3, 4), (5, 23)

yes each input is paired with only one output

Today's Goals

I can...

- write functions in proper function notation
- solve functions
- create functions given a solution


f(x) = -4x + 12
y = -4x + 12
" f of x "
function notation
" negative 4 x plus 12 "
Function Rule
g(x)
h(x)

Examples

$f(x)=-3x-4$

$f(2) = -3(2) - 4$

"plug 2 in for x"

$f(2) = -10$

$f(-2) = -3(-2) - 4$

$f(-2) = 2$

$f(0) = -3(0) - 4$

$f(0) = -4$

Examples

1. f(x) = -10x

Evaluate. f(3)
f(-2)
f(5)

1. g(x)= -5x 2. h(x)= 2x

Evaluate each function for x = -2

Examples

1. f(x)= -10x

Evaluate. f(3) = -10(3) = -30

f(-2) = -10(-2) = 20

f(5) = -10(5) = -50

1. g(x)= -5x

2. h(x)= 2x

Evaluate each function for x = -2

g(-2) = -5(-2)

g(-2) = 10 ✓

h(-2) = 2(-2)

h(-2) = -4 ✓

Creating Equations

Create a function where f(2) = 10

Create a function where g(3) = 15

Creating Equations

Your turn!

Create a function where f(2) = 5

Create a function where g(2) = 18

Creating Equations

Create a function where f(2)=5

$f(x) = x+3$

$f(2) = 2+3$

$f(2) = 5$ ✓

$f(x) = 3x-1$

$f(2) = 3(2)-1$

$= 6-1$

$f(2) = 5$ ✓

Create a function where g(2)=18

$g(x) = 9x$

$g(2) = 9(2)$

$g(2) = 18$ ✓

$g(x) = 16+x$

$g(2) = 16+2$

$g(2) = 18$ ✓

$g(x) = \frac{36}{x}$

$g(2) = \frac{36}{2}$

$g(2) = 18$ ✓

Creating Equations Activity

Name:_____ Group:_____

Why we do what we do:

You can show understanding of concepts if you can work backwards. Working problems backwards is also how you are going to be able to apply problems in real life situations. This activity will help you to practice working backwards.

Directions:

1. Choose a group of 3-4 people. You may choose your group, but it must contain 3-4 people.

2. Once you have chosen your group work through each scenario to find equations or application problem for sequences and functions.

Problems

Functions:

Create two functions for each problem that have the given solutions. Circle your two functions. Check each problem to make sure that your function works.

*You must include a function that uses at least two operations and you must use all four operations at some point on this page.

Example Function:

f(2) = 5

Answers: **f(x) = x + 3** **f(x) = 5x - 5**

f(2) = 2 + 3 f(2) = 5(2) - 5

f(2) = 5 f(2) = 10 - 5 = 5

Your Problems:

1. f(3) = 34

2. g(3) = 45

3. h(-2) = 12

4. f(10) = -35

Functions

$f(x) = 2x - 18$ $g(x) = x^2 + 3x$ $h(x) = x$ $r(x) = x/3 + 4$

Solve each problem below given the above functions. SHOW WORK

1. f(3) =

2. g(3) =

3. h(-2) =

4. r(12) =

5. g(-3) =

6. f(-3)

Solve each function for x = 0. Use proper notation below to show the solution to each function.

7.

Homework

Worksheet

Back only