

Warm Up

2/7/2018

Use the following functions to answer A-F:

1. $y = -7x - 11$ 2. $y = \frac{60}{x}$ 3. $y = x^2 + 1.6$

a. For function #1, find y if $x = -12$

b. For function #1, find x if $y = 38$

c. For function #2, find y if $x = 5$

d. For function #2, find x if $y = -15$

e. For function #3, find y if $x = -9$

f. For function #3, find x if $y = 26.6$

a. $y = -7(-12) - 11 \rightarrow \boxed{y = 73}$

b. $38 = -7x - 11 \rightarrow \boxed{x = -7}$

c. $y = \frac{60}{5} \rightarrow \boxed{y = 12}$

d. $-15 = \frac{60}{x} \rightarrow \boxed{x = -4}$

e. $y = (-9)^2 + 1.6 \rightarrow \boxed{y = 82.6}$

f. $26.6 = x^2 + 1.6 \rightarrow \boxed{x = \pm 5}$

FUNCTION NOTATION

Function notation defines an equation as a function between two variables, allowing for easier input/output calculations.

Equation

$$y = 2x + 1$$

y is new $f(x)$

Function

$$f(x) = 2x + 1$$

"f of x" (f as a function of x)

Find y if $x = 3$...

$$y = 2(3) + 1$$

input value for x

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

Find x if $y = 9$...

$$9 = 2x + 1$$

y is new $f(x)$

Find x if $f(x) = 9$...

$$9 = 2x + 1$$

(5, 11)

ordered pair new form

$$f(5) = 11$$

GRAPH!

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Practice

Use the functions below to solve A-F:

$$g(x) = -x + 10 \quad h(x) = x^2 - 1 \quad j(x) = \frac{48}{x}$$

a. $h(4)$

$$h(4) = (4)^2 - 1$$

$$h(4) = 16 - 1$$

$$h(4) = 15$$

b. $j(-6)$

$$j(-6) = \frac{48}{(-6)}$$

$$j(-6) = -8$$

c. $g(12)$

$$g(12) = -(12) + 10$$

$$g(12) = -12 + 10$$

$$g(12) = -2$$

d. x when
 $j(x) = 12$

$$12 = \frac{48}{x}$$

$$12x = 48$$

$$x = 4$$

e. x when
 $g(x) = -10$

$$-10 = -x + 10$$

$$-20 = -x$$

$$x = 20$$

f. x when
 $h(x) = 63$

$$63 = x^2 - 1$$

$$64 = x^2$$

$$x = \pm 8$$