

Write the equation for...

$$y = mx + b$$

Hours Worked, h	Gross Pay, P (\$)
0	
1	12
2	24
3	36
4	48
5	60

Write the equation using the given variables in the chart.
What is the person's pay after 20 hours.

Write the equation for...

$$y = mx + b$$
$$y = 12x + 0$$

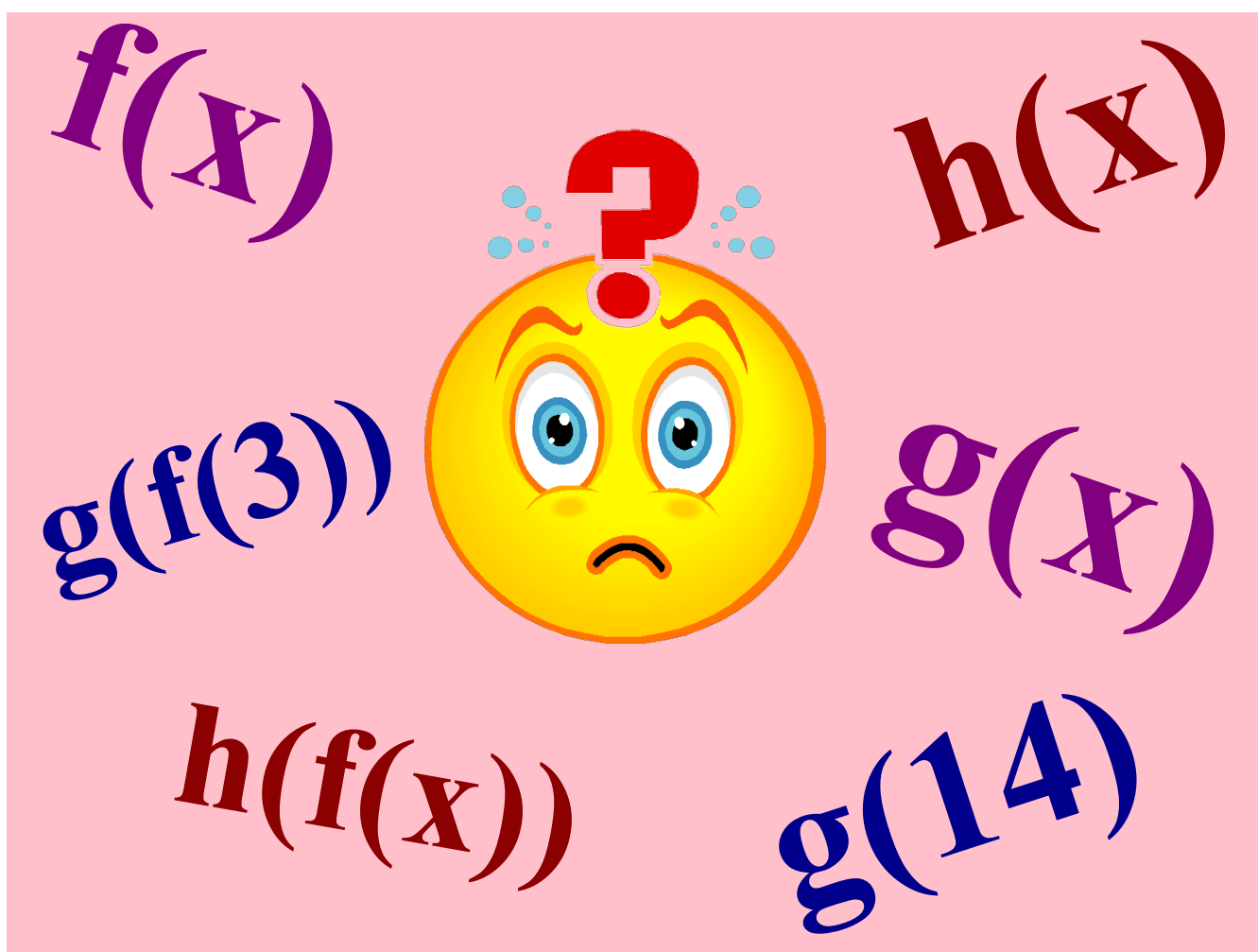
Hours Worked, h	Gross Pay, P (\$)
0	0
1	12
2	24
3	36
4	48
5	60

Write the equation using the given variables in the chart.

$$p = 12h + 0$$

What is the person's pay after 20 hours.

$$p = 12(20)$$
$$= \$240$$



y $f(x) = 3x + 7$ ^x Nov 12/14

where

$f(3)$

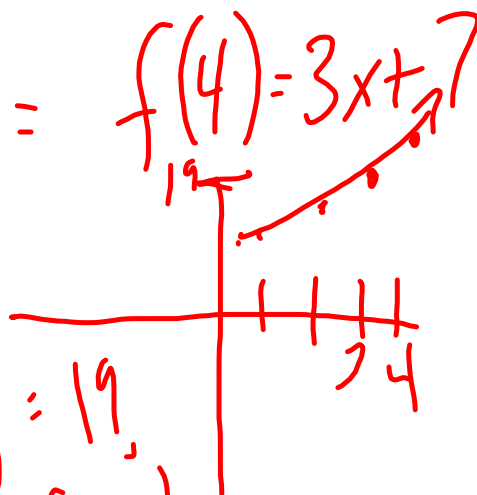
$= f(4) = 3x + 7$

$f(4) = 3(4) + 7$

$f(4) = 12 + 7$

$f(4) = 19$ $x = 4$ $y = 19$

$(4, 19)$



A light blue rectangular area containing a white cloud-like shape. Inside the cloud, three mathematical functions are written in black text on colored rectangular backgrounds. The first function, $f(x) = 7x - 1$, is on a yellow background. The second function, $g(x) = 3(x - 1)$, is on a pink background. The third function, $h(x) = 2x^2 - 1$, is on a green background. Each function is enclosed in a red hand-drawn box. Above the first function is the handwritten equation $y = 7x + 1$. Above the second function is the handwritten equation $y = 3(x - 1)$. Below the third function is the handwritten equation $y = 2x^2 - 1$.

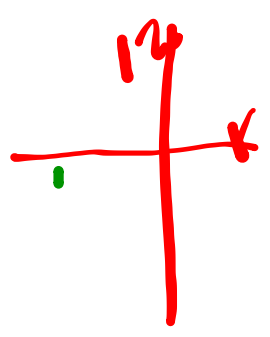


$$h(x) = 2x^2 - 1$$

Solve for x

$$h(x) = 12$$

$x = 12$
 $y = 287$
 Solve for y



$$12 = 2x^2 - 1$$

$$\frac{13}{2} = \frac{2x^2}{2}$$

$$\sqrt{6.5} = \sqrt{x^2}$$

$$h(12)$$

$$h(12) = 2x^2 - 1$$

$$h(12) = 2(12)^2 - 1$$

$$h(12) = 2(144) - 1$$

$$h(12) = 288 - 1$$

$$h(12) = 287$$

$f(x) = 7x - 1$ $g(x) = 3(x - 1)$
 $h(x) = 2x^2 - 1$

20
 20 replaces x

a) $f(20)$

$f(20) = 7(20) - 1$
 $f(20) = 140 - 1$
 $f(20) = 139$
 $(20, 139)$

b) $f(x) = 20$

$f(20) = 7x - 1$
 $20 = 7x - 1$
 $21 = 7x$
 $3 = x$

$$f(x) = 7x - 1 \quad g(x) = 3(x - 1)$$

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

c) $g(3)$

d) $h(f(1))$

$$f(x) = 7x - 1 \quad g(x) = 3(x - 1)$$

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

(2, 7)

e) $h(2) - f(3)$

$$h(2) = 2(2)^2 - 1 = 7$$

$$f(3) = 7(3) - 1 = 20$$

$$h(2) - f(3) = 7 - 20 = -13$$

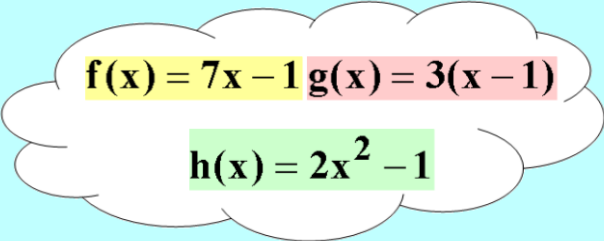
Try These !!

f) $g(-3)$

g) $f(g(-2))$

h) $h(-3)-f(2)$

i) $g(x) = 27$



$f(x) = 7x - 1$ $g(x) = 3(x - 1)$

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

$f(x) = 7x - 1$ $g(x) = 3(x - 1)$

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

Try These !!

f) $h(-3)$

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

$h(-3) = 2(-3)^2 - 1$

$h(-3) = 2(9) - 1$

$h(-3) = 18 - 1$

$h(-3) = 17$

$(-3, 17)$

$g(-2) = -9$
 $f(-9)$

i) $g(x) = 27$

$g(x) = 3(x - 1)$

$27 = 3(x - 1)$

$27 = 3x - 3$

$27 + 3 = 3x$

$30 = 3x$

$10 = x$

$30 = 3x$
 $30 \div 3 = 3x \div 3$
 $10 = x$

g) $f(g(-2))$

$g(x) = 3(x - 1)$

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

$g(-2) = 3(-3)$

$g(-2) = -9$

$f(g(-2))$

$f(-9)$

$f(x) = 7x - 1$

$f(-9) = 7(-9) - 1$

$f(-9) = -63 - 1$

$f(-9) = -64$

h) $h(-3) - f(2)$

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

$h(-3) = 2(-3)^2 - 1$

$h(-3) = 2(9) - 1$

$h(-3) = 18 - 1$

$h(-3) = 17$

$f(x) = 7x - 1$

$f(2) = 7(2) - 1$

$f(2) = 14 - 1$

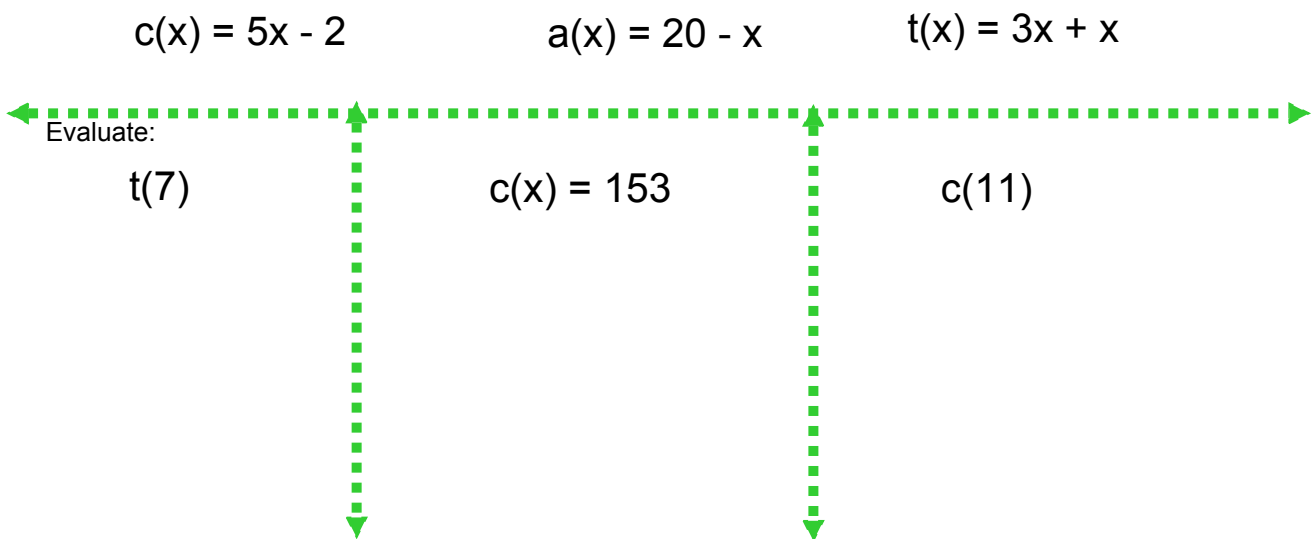
$f(2) = 13$

$h(-3) - f(2)$

$17 - 13$

4

Function Notation...



Try This!!

Number of Marbles, n	Mass of Marbles, m (g)
1	1.27
2	2.54
3	3.81
4	5.08
5	6.35
6	7.62

- State the domain & Range.
- Is this relation a function?
- State the dependent and independent variables.
- Write the function notation.

Solution:

a) Domain: { 1, 2, 3, 4, 5 }

Range: {1.27, 2.54, 3.81, 5.08, 6.35, 7.62}

b) Function

c) Independent - number of marbles

Dependent - Mass

d) $C(n) = 1.27 n$

