

HIAT3- Function Notation

1. Evaluate the following expressions given the functions below:

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

$$f(x) = x^2 + 7$$

$$h(x) = \frac{12}{x}$$

$$j(x) = 2x + 9$$

a. $g(10) = -3(10) + 1$
 $-30 + 1 = -29$

b. $f(3) = (3)^2 + 7$
 $9 + 7 = 16$

c. $h(-2) = \frac{12}{-2} = -6$

d. $j(7) = 2(7) + 9$
 $14 + 9 = 23$

e. $h(a) = \frac{12}{a}$

f. $g(b+c) = -3(b+c) + 1$
 $-3b - 3c + 1$

~~g. $f(h(x))$~~ not done in alg. 2

h. Find x if $g(x) = 16$
 $-3x + 1 = 16$
 $-3x = 15$
 $x = -5$

i. Find x if $h(x) = -2$
 $\frac{12}{x} = -2$
 $x = -6$

j. Find x if $f(x) = 23$
 $x^2 + 7 = 23$
 $x^2 = 16$
 $\sqrt{x^2} = \sqrt{16}$
 $x = \pm 4$

1. Translate the following statements into coordinate points:

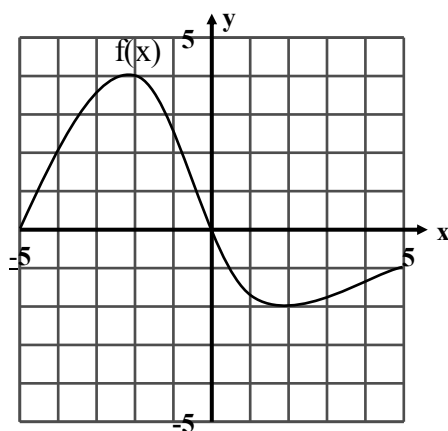
a. $f(-1) = 1$ $(-1, 1)$

b. $h(2) = 7$ $(2, 7)$

c. $g(1) = -1$ $(1, -1)$

d. $k(3) = 9$ $(3, 9)$

2. Given this graph of the function $f(x)$:



Find:

a. $f(-4) = 2$

b. $f(0) = 0 \text{ and } -5$

c. $f(3) \approx -1.75$

d. $f(-5) = 0$

e. x when $f(x) = 2$
 $x \approx -1.75$

f. x when $f(x) = 0$
 $x = 0$

g. x when $f(x) = -2$
 $x = 2$