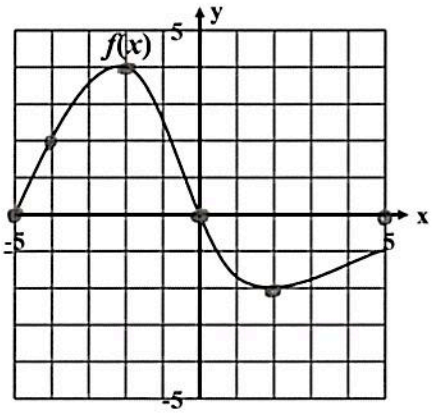
Algebra RH HW # _____

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



Find:

a. $f(2) = -2$ b. $f(0) = 0$

c. $f(5) = -1$ d. $f(-5) = 0$

e. $f(f(-4)) =$ $f(-4) = 2$ $f(2) = -2$

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

g. x when $f(x) = 4$ $f(-2) = 4$
$x = -2$

2. Using f(x) = 4x + 3 and g(x) = x - 2, find:

a. f(g(5)) $g(5) = 5 - 2 = 3$ $f(3) = 4(3) + 3 = 15$ $f(g(5)) = 15$

b. g(f(-6)) $f(-6) = 4(-6) + 3 = -21$ $g(-21) = -21 - 2 = -23$ $g(f(-6)) = -23$

c. f(f(7)) $f(7) = 4(7) + 3 = 31$ $f(31) = 4(31) + 3 = 127$ $f(f(7)) = 127$

d. g(f(x)) $f(x) = 4x + 3$ $g(4x+3) = 4x + 3 - 2$ $g(f(x)) = 4x + 1$

3. If $f(x) = -2x + 1$ and $g(x) = \sqrt{x^2 - 5}$, find $(g \circ f)(2)$

$f(2) = -2(2) + 1 = -3$ $g(-3) = \sqrt{(-3)^2 - 5} = \sqrt{4} = 2$ $(g \circ f)(2) = 2$