**Math III Unit 4: Functions Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
ASSIGNMENT (Unit 4 / Day 1)**

1. What is the value of g(-2) for the function g(x) = 3x + 2?
2. What is the output of f(-7) for the function f(x) = 0.5x – 4?
3. If f(x) = x2 and g(x) = x + 1, what is (g०f)(2)?
4. If f(x) = 5x – 2 and g(x) = $\sqrt[3]{x}$, evaluate (f०g)(-8).
5. If f(x) = 5x2 and g(x) = $\sqrt{2x}$, what is the value of (f(g(8))?
6. A certain drug raises a patient’s heart rate, h(x), in beats per minute, according to the function h(x) = 70 + 0.2x, where x is the bloodstream drug level, in milligrams. The level of the drug in the patient’s bloodstream is a function of time, t, in hours, according to the formula g(t) = 300(0.8)t. Find the value of h(g(4)), the patient’s heart rate in beats per minute.
7. Given: the function f defined by f(x) = 3x2 – 4. Which statement is true?
	1. f(0) = 0
	2. f(-2) = f(2)
	3. f(5) + f(2) = f(7)
	4. f(5) $∙$ f(2) = f(10)
8. If f(x) = x2 – 5 and g(x) = 6x, find g(f(x)).
9. A function is shown below.

$$ \left\{\begin{array}{c}x+2, x<-1\\ x^{2}, -1\leq x\leq 2\\3, x>2\end{array}\right.$$

What is the value of the expression f(2) + 2f(-4) – f(5)?