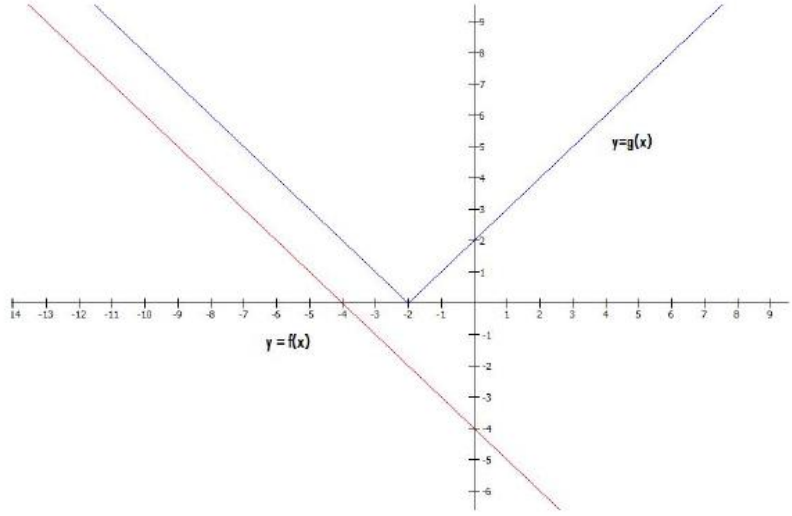
Pre-Calculus **Name** _____
Evaluating Functions and Operations **Hour** ____

1. Use the graphs to complete the compositions.



a) $(f \circ g)(-2)$ b) $(f \circ g)(-3)$ c) $(f \circ g)(0)$

d) $(g \circ f)(0)$ e) $(g \circ f)(-4)$ f) $(g \circ f)(1)$

2. To print a novel, it costs $500 plus $4 per book. Each book sells for $16.

a) C(x) represents the cost per order of x books. Find C(x).

b) R(x) represents the total money earned from selling books. Find R(x).

c) P(x) represent the profit which takes the revenue R(x) and subtracts the cost C(x). Find P(x).

d) Find the profit if 1200 books are sold.

3. The first two tables list values for f(x) and g(x). Complete the composition f(g(x)) in the third table.

x	$f(x)$
0	5
1	7
2	9
3	7
4	1

x	$g(x)$
1	2
3	6
5	10
7	8
9	4

x	$g(f((x))$
0	
1	
2	
3	
4	

4. Evaluate f(2a) for $f(x) = 2x^2 - 1$.

5. Simplify f(a) + f(2) for the function f(x) = 117.

6. Evaluate f(a + h) for $f(x) = 3x^2 + 3x - 2$.

7. Evaluate $f\left(\frac{2}{a}\right)$ for $f(x) = \frac{2}{x}$.

8. Evaluate $\frac{f(a)}{2}$ for $f(x) = \frac{2}{x}$.

9. Describe any similarities and difference in the evaluation of questions 10 and 11.

10. Evaluate and simplify $f\left(\frac{2}{a}\right)$ for $f(x) = \frac{3}{4-x}$. Hint: to be completely simplified, there can be no complex fractions.