College Algebra **Combining Functions**

1. Two functions, f and g, are defined using the tables below.

x	-2	-1	0	1	2	3
f(x)	3	2	3	2	3	2

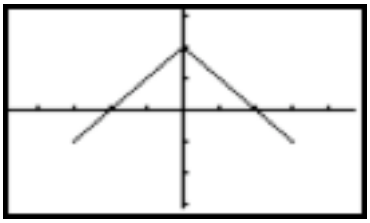
x	-2	-1	0	1	2	3
g(x)	3	2	1	0	-1	-2

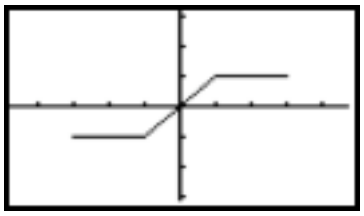
Evaluate the following:

a. $(f + g)(2) =$ b. $(g - f)(-2) =$ c. $(f / g)(1) =$

2. The graphs of two functions f and g are shown below.

y = f(x) y = g(x)





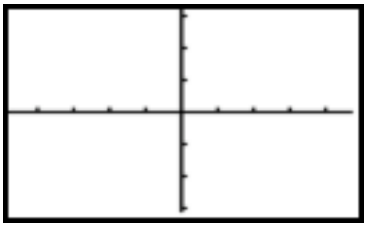
Evaluate the following:

a. $(f + g)(1) =$

b. $(f - g)(3) =$

c. $(g / f)(0) =$

d. Sketch the graph of $y = (f + g)(x)$



e. Write a rule for f(x).

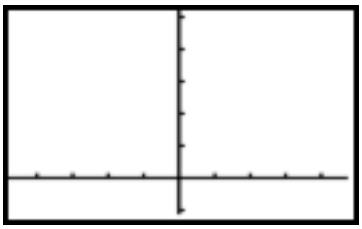
f(x) = _____

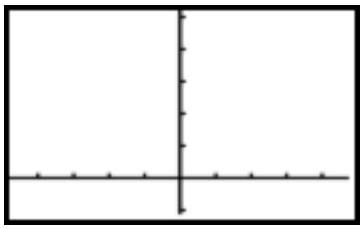
f. Write a rule for g(x)
(Hint: g is a piecewise function.)

$$g(x) = \begin{cases} \\ \\ \end{cases}$$

3. If $f(x) = |x|$ and $g(x) = x$, sketch a graph of $y = (f + g)(x)$ and $y = (f - g)(x)$.

y = (f + g)(x) y = (f - g)(x)





4. Two functions, f and g, are defined using the tables below.

x	-2	-1	0	1	2	3
f(x)	3	2	3	2	3	2

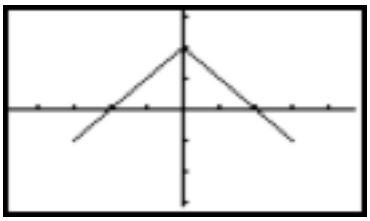
x	-2	-1	0	1	2	3
g(x)	3	2	1	0	-1	-2

Evaluate the following.

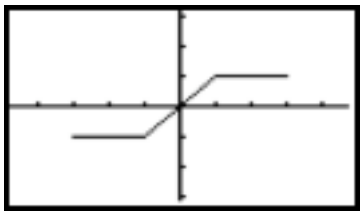
a. $(f \circ g)(1) =$ b. $(f \circ g)(3) =$ c. $(g \circ f)(0) =$

5. The graphs of two functions f and g are shown below.

y = f(x)



y = g(x)



Evaluate the following:

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