

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## 2.5 Practice Problems

**For 1- 9: Let  $f(x) = 2x - 1$ ,  $g(x) = 3x$ , and  $h(x) = x^2 + 1$ . Compute the following:**

1.  $f(g(-3))$

2.  $f(h(7))$

3.  $(g \circ h)(24)$

4.  $f(g(h(2)))$

5.  $h(g(f(5)))$

6.  $g(f(h(-6)))$

7.  $f(x + 1)$

8.  $g(3a)$

9.  $h(x - 2)$

10. Given  $f(x) = x - 1$  and  $g(x) = x^2 + 2x - 8$ ,  
find  $(g \circ f)(x)$

11. Use the following for a-d,  $f(x) = 2x^2 + x - 1$ ,  $g(x) = 3 - 2x$ ,  $k(x) = \frac{3x}{x-1}$

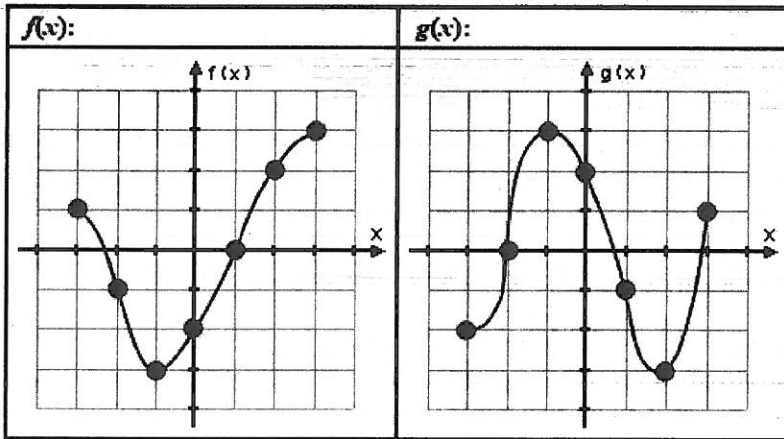
a) Find  $(f - g)(x)$

b) Find  $(f \circ g)(x)$

c) Find  $\left(\frac{g}{f}\right)(x)$  and its domain.

d) Find  $k(f(g(x)))$

12. Given the graphs of  $f(x)$  and  $g(x)$ , evaluate:



a.  $g(f(-1))$

b.  $(g + f)(0)$

c.  $(f/g)(3)$

d.  $(g-f)(2)$

e.  $2(g(3))$

f.  $g(f(0))$

13. Given  $f(x) = x^2 - 5x + 4$ ,  $g(x) = 3 - x$ ,  $h(x) = \frac{2}{x+5}$ , find:

a.  $f(g(h(x)))$

b.  $h(f(g(x)))$

14.) If  $(f \circ g)(x) = \frac{4}{(5x+2)^2}$  find  $g(x)$  if  $f(x) = 4x^{-4}$ .