

# 8R H Function Operation Review

SHOW YOUR WORK AND WORK IN PENCIL.

Name: \_\_\_\_\_ Per: \_\_\_\_\_

1. For each of the following functions, complete the table and graph.

$f(x) = 3x + 12$  and  $g(x) = 5x + 15$

x	f(x)	g(x)	f(x) + g(x)
-3			
-2			
0			
4			
7			

b. For g(x), list the following

$f(-3) + g(4) =$ _____	$f(0) + g(7) =$ _____
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a. For f(x), list the following

Vertical stretch: \_\_\_\_\_

Vertical shift: \_\_\_\_\_

Write equation in factor form: \_\_\_\_\_

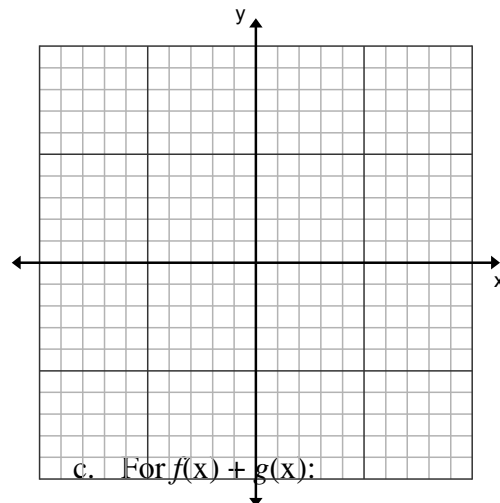
Horizontal shift: \_\_\_\_\_

Vertical stretch: \_\_\_\_\_

Vertical shift: \_\_\_\_\_

Write equation in factor form: \_\_\_\_\_

Horizontal shift: \_\_\_\_\_



c. For f(x) + g(x):

Equation: \_\_\_\_\_

Vertical stretch: \_\_\_\_\_

Vertical shift: \_\_\_\_\_

Write the equation in

factored form: \_\_\_\_\_

Horizontal shift: \_\_\_\_\_

2. If  $f(x) = 2x - 12$  and  $g(x) = 3x + 15$ .

a. Complete the table

b. Write the equation for  $f(x) - g(x) =$  \_\_\_\_\_

c.  $f(-1) - g(0) =$  \_\_\_\_\_

d.  $f(9) - g(-4) =$  \_\_\_\_\_

x	f(x)	g(x)	f(x) - g(x)
-4			
-1			
0			
5			
9			

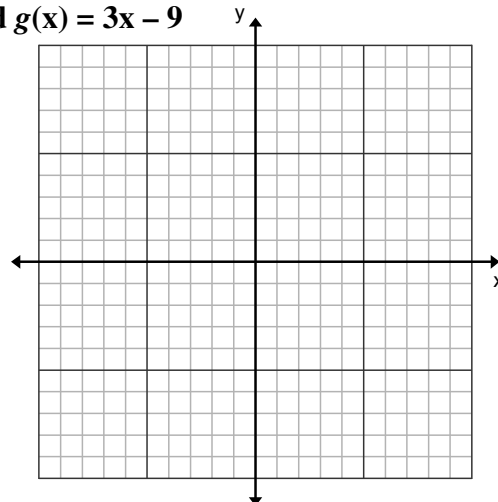
3. Complete the table and graph for each function.  $f(x) = 6x + 2$  and  $g(x) = 3x - 9$

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

a. What is  $f(2)g(-1)$  \_\_\_\_\_

b. What are the x-intercepts for  $f(x)g(x)$  \_\_\_\_\_

c. Write the equation for  $f(x)g(x)$  \_\_\_\_\_



4. Perform the following operations given  $r(x) = -2x - 10$  and  $s(x) = -x + 5$ :

a.  $r(x) + s(x)$ : \_\_\_\_\_

d.  $r(x)s(x)$ : \_\_\_\_\_

b.  $r(x) - s(x)$ : \_\_\_\_\_

e.  $s(x)r(x)$ : \_\_\_\_\_

c.  $s(x) - r(x)$ : \_\_\_\_\_

Extra Credit: find  $s(r(x))$ : \_\_\_\_\_

f. Describe the result of a graph if you add two lines together: \_\_\_\_\_

g. Describe the result of a graph if you subtract one line from another: \_\_\_\_\_

h. Describe the resultant graph if you multiply two lines together: \_\_\_\_\_

i. Use the two equations (r and s) above to fill in the table below:

x	r(x)	s(x)	r(x)s(x)	r(x)/s(x)
-3				
-2				
-1				
0				
1				
2				
3				

5. Multiply the following binomials.

a.  $(x + 3)(2x + 7)$

c.  $(x + 3)(x - 3)$

b.  $(x - 4)(x - 5)$

d.  $(-2x + 2)(x + 6)$

7. Given the equation:  $f(x) = \frac{1}{2}x - 4$  to write the new equation. Draw arrows to the graphs they represent.

a.  $2f(x)$  \_\_\_\_\_

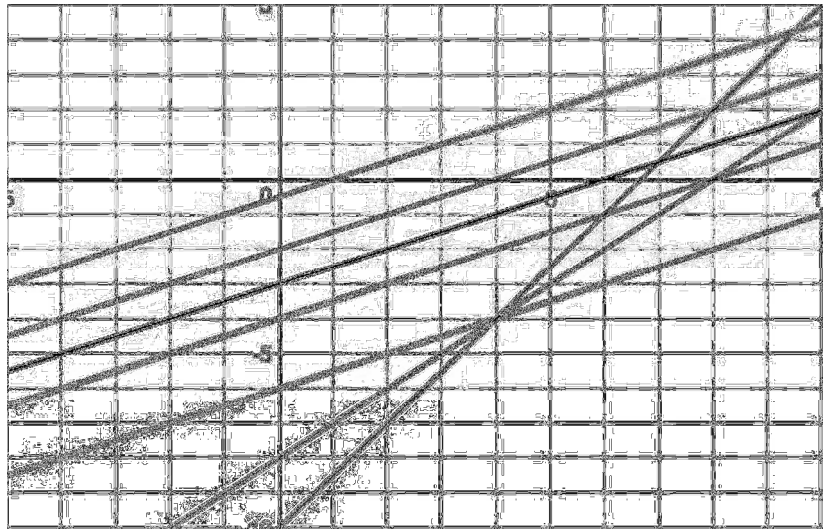
b.  $f(x) + 2$  \_\_\_\_\_

c.  $f(x) - 2$  \_\_\_\_\_

d.  $3f(x) + 2$  \_\_\_\_\_

e.  $f(x + 2)$  \_\_\_\_\_

f.  $f(x - 4) + 2$  \_\_\_\_\_



8. Describe how to change the stretch of a line.