

7R Function Operation Review

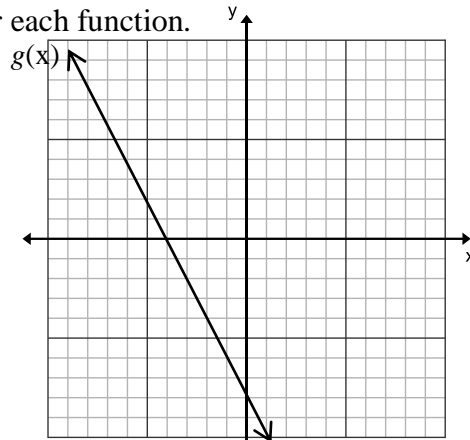
Name: _____ Per: _____

Due: January 17th / 18th

SHOW YOUR WORK AND WORK IN PENCIL.

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

x	$f(x)$	$g(x)$	$f(x) + g(x)$
-3	3		
-2	6		
0	12		
4	24		
7	33		



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

3. For $g(x)$, list the following

4. For $f(x) + g(x)$:

- | | | |
|----------------------------|----------------------------|----------------------------|
| a. Equation: _____ | a. Equation: _____ | a. Equation: _____ |
| b. Vertical stretch: _____ | b. Vertical stretch: _____ | b. Vertical stretch: _____ |
| c. Vertical shift: _____ | c. Vertical shift: _____ | c. Vertical shift: _____ |
| d. Factor out slope: _____ | d. Factor out m : _____ | d. Factored form: _____ |
| e. Horizontal shift: _____ | e. Horizontal shift: _____ | e. Horizontal shift: _____ |

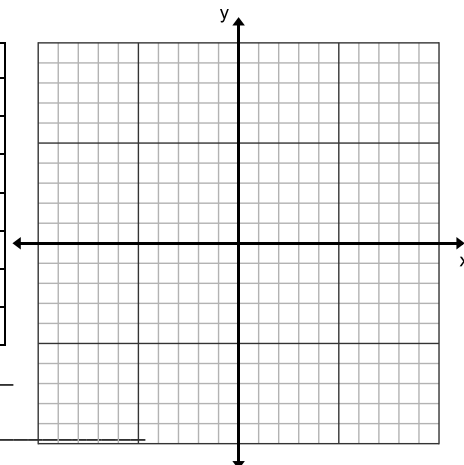
5. Multiply the following binomials.

- | | |
|----------------------|-----------------------|
| a. $(x + 3)(2x + 7)$ | c. $(x + 3)(x - 3)$ |
| b. $(x - 4)(x - 5)$ | d. $(-2x + 2)(x + 6)$ |

6. If $f(x) = x + 2$ and $g(x) = 3x - 9$

- Complete the table.
- Graph and label each function.
- What is $f(2)g(-1)$ _____
- Set up the expression for $f(x)g(x)$ _____
- Find the y-intercepts for $f(x)$: _____ $g(x)$: _____ $f(x)g(x)$: _____
- Find the x-intercepts for $f(x)$: _____ $g(x)$: _____ $f(x)g(x)$: _____
- Multiply and find the equation for $f(x)g(x)$.

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



7. Fill in the following table for **three new** functions.

a. What is $f(-2)$? _____

b. What is $f(3)$? _____

c. Graph $f(x)$ on the coordinate grid.

d. Find the equation for $f(x)$: _____

e. What is $g(-1)$? _____

f. Where is $g(x) = 24$? _____

x	f(x)	g(x)	f(x) + g(x)	f(x) - g(x)	f(x)g(x)
-5	42	-12	30	54	-504
-3	30	-4		34	
-2	24	0			
0	12	8			
1	6	12	18		
3	-6	20			-120
5	-18	28			

g. Graph $g(x)$ on the coordinate grid.

h. What is the equation for $g(x)$? _____

i. Graph $f(x) + g(x)$. Write the equation _____

j. Graph $f(x) - g(x)$. Write the equation _____

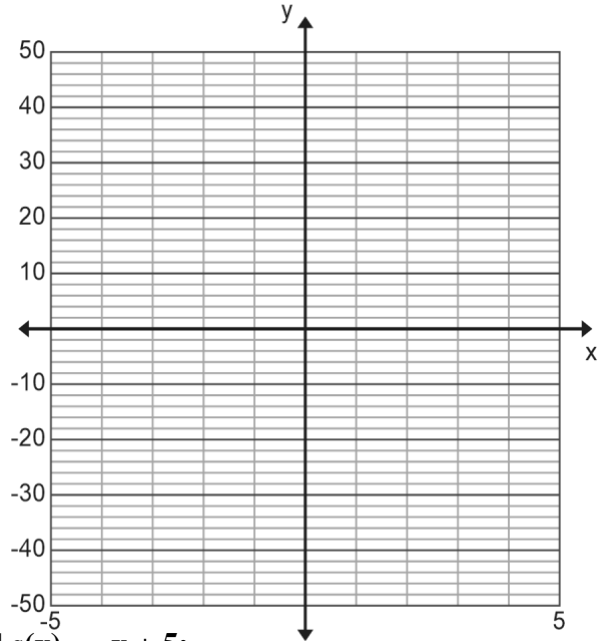
k. Is $f(x)g(x)$ linear? _____ Explain how you know _____

l. List the x and y intercepts for each function asked:

$f(x) + g(x)$ _____

$f(x) - g(x)$ _____

$f(x)g(x)$ _____



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

a. $r(x) + s(x)$: _____

g. $r(x)s(x)$: _____

b. $r(x) - s(x)$: _____

c. $s(x) - r(x)$: _____

d. $r(3)s(2)$: _____

h. $s(x)r(x)$: _____

e. $r(3)s(0)$: _____

f. $r(3)/s(0)$: _____

EC: find $s(r(x))$: _____

i. What kind of function is the result of adding two lines together? _____

j. What kind of function is the result of subtracting one line from another: _____

k. What kind of function is the result of multiplying two lines together: _____

9. Using the function $f(x) = x + 1$, write the new equation. Describe how the graph would change.

a. $2f(x)$ _____

b. $f(x) + 2$ _____

c. $f(x) - 2$ _____

d. $f(2x)$ _____