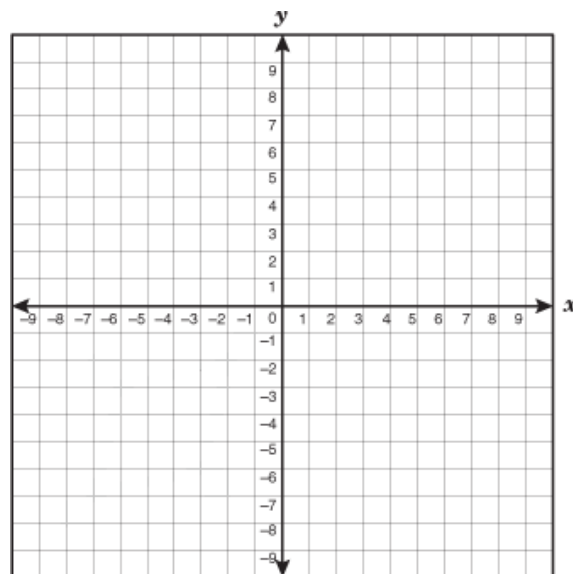


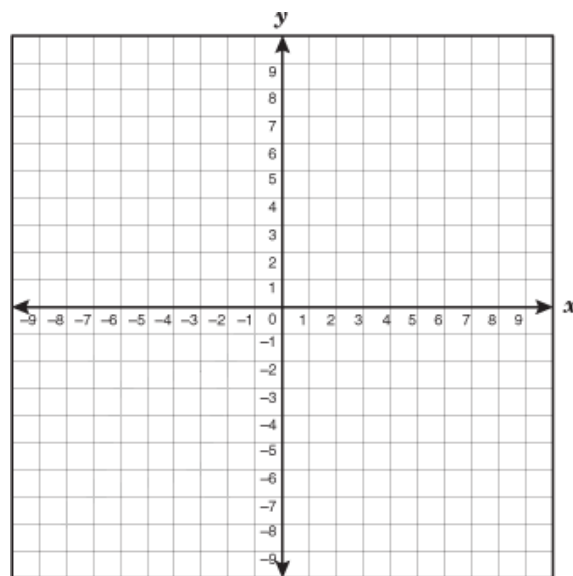
**Pre-Calculus**  
**Unit 2 – September 11 to September 26**

<b>Date</b>	<b>Topic</b>	<b>Assignment</b>
Thur 9/11	1.6 - Parent Functions (Notes)	Worksheet Notes
Fri 9/12	1.6/1.7 - Parent Function/Transformation Review	Worksheet
Mon 9/15	1.7 - Transformations: Horizontal Stretch and Shrink	Handout
Tues 9/16	1.7 - Transformations	Worksheet
Wed 9/17	1.7 - Transformations: Create Equations	Pg. 80 (9 - 18)
Thur 9/18	1.8 - Composite Functions: Operations and Composite	Worksheet
Fri 9/19	1.8 - Composite Functions	Worksheet
Mon 9/22	1.9 - Inverse Functions	P. 100 (25-32,39,42-44,47,49,63-68)
Tues 9/23	1.9 - Inverse Functions	Continued
Wed 9/24	Review Test 1.2	Study!!
Thur 9/25	<b>Test 1.2</b>	
Fri 9/26	<b>County Fair Day</b>	

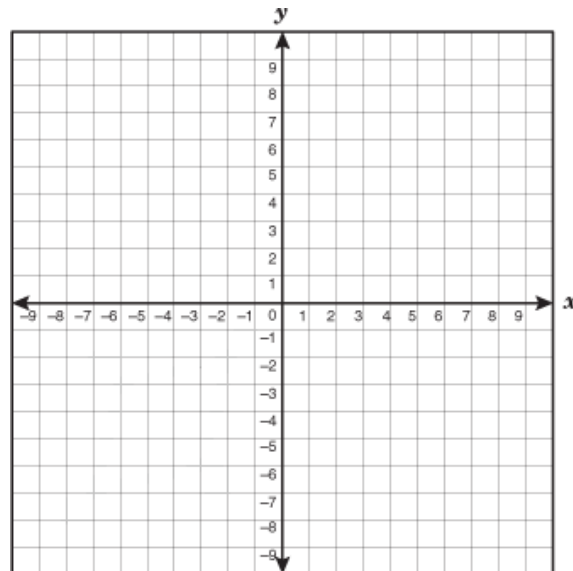
1. Equation: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Domain: \_\_\_\_\_ Range: \_\_\_\_\_  
 y-intercept: \_\_\_\_\_ x-intercept: \_\_\_\_\_  
 Symmetry: \_\_\_\_\_  
 Even, odd or neither: \_\_\_\_\_  
 One to one? : \_\_\_\_\_ if yes, why \_\_\_\_\_  
 Increasing, Decreasing, or Constant, over what interval?:  
 \_\_\_\_\_



2. Equation: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Domain: \_\_\_\_\_ Range: \_\_\_\_\_  
 y-intercept: \_\_\_\_\_ x-intercept: \_\_\_\_\_  
 Symmetry: \_\_\_\_\_  
 Even, odd or neither: \_\_\_\_\_  
 One to one? : \_\_\_\_\_ if yes, why \_\_\_\_\_  
 Increasing, Decreasing, or Constant, over what interval?:  
 \_\_\_\_\_



3. Equation: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Domain: \_\_\_\_\_ Range: \_\_\_\_\_  
 y-intercept: \_\_\_\_\_ x-intercept: \_\_\_\_\_  
 Symmetry: \_\_\_\_\_  
 Even, odd or neither: \_\_\_\_\_  
 One to one? : \_\_\_\_\_ if yes, why \_\_\_\_\_  
 Increasing, Decreasing, or Constant, over what interval?:  
 \_\_\_\_\_



4. Equation: \_\_\_\_\_

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

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

y-intercept: \_\_\_\_\_ x-intercept: \_\_\_\_\_

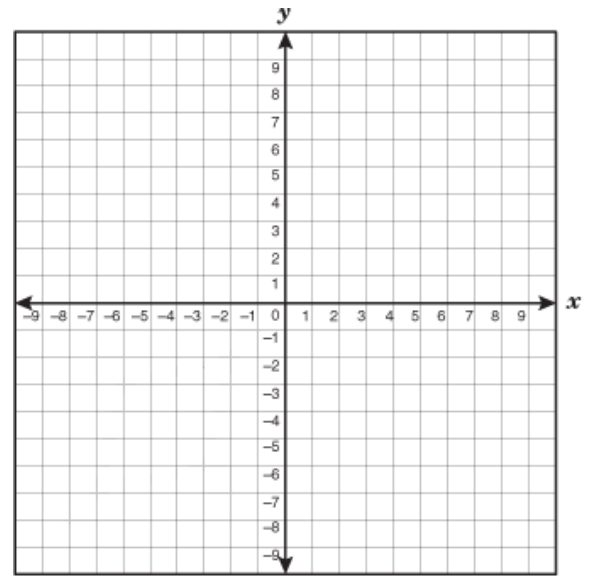
Symmetry: \_\_\_\_\_

Even, odd or neither: \_\_\_\_\_

One to one? : \_\_\_\_\_ if yes, why \_\_\_\_\_

Increasing, Decreasing, or Constant, over what interval?:

\_\_\_\_\_



5. Equation: \_\_\_\_\_

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

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

y-intercept: \_\_\_\_\_ x-intercept: \_\_\_\_\_

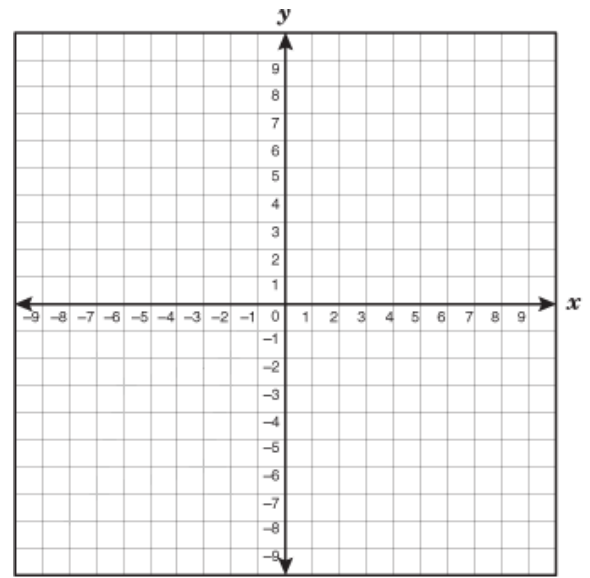
Symmetry: \_\_\_\_\_

Even, odd or neither: \_\_\_\_\_

One to one? : \_\_\_\_\_ if yes, why \_\_\_\_\_

Increasing, Decreasing, or Constant, over what interval?:

\_\_\_\_\_



6. Equation: \_\_\_\_\_

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

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

y-intercept: \_\_\_\_\_ x-intercept: \_\_\_\_\_

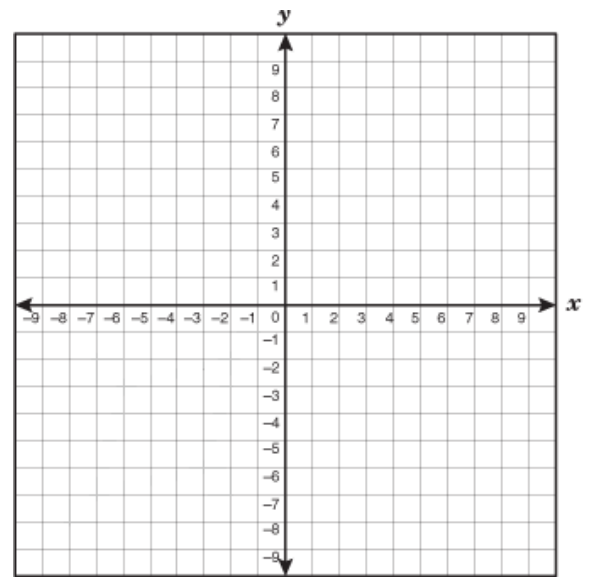
Symmetry: \_\_\_\_\_

Even, odd or neither: \_\_\_\_\_

One to one? : \_\_\_\_\_ if yes, why \_\_\_\_\_

Increasing, Decreasing, or Constant, over what interval?:

\_\_\_\_\_



**Friday, September 12**

**Transformations**

For each equation:

- a) identify the parent function
- c) describe the transformation

- b) graph the function
- d) state the domain and range

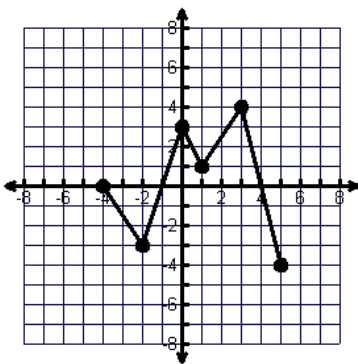
- |                       |                               |                              |                         |
|-----------------------|-------------------------------|------------------------------|-------------------------|
| 1) $f(x) =  x  + 3$   | 2) $p(x) =  2x  - 3$          | 3) $g(x) = \sqrt{x} + 5$     | 4) $f(x) = 3x^2 - 1$    |
| 5) $b(x) = (x + 2)^3$ | 6) $g(x) = -\sqrt{x + 1}$     | 7) $y = \frac{1}{x + 4} - 3$ | 8) $y = 0.5x^2$         |
| 9) $f(x) = 3$         | 10) $y = \frac{2}{x - 3} + 1$ | 11) $y = -x^3 + 1$           | 12) $y = \sqrt{-x + 1}$ |

**Tuesday, September 16**

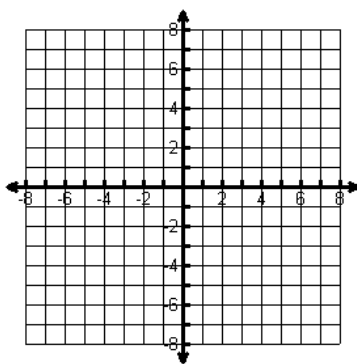
**Horizontal Stretch/Shrink**

Sketch graphs of the following transformations of  $f(x)$ .

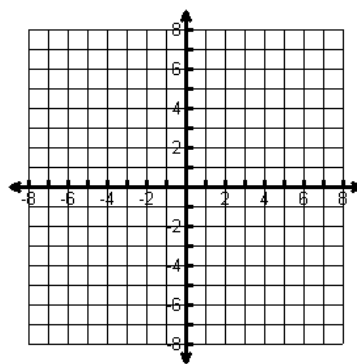
$y = f(x)$



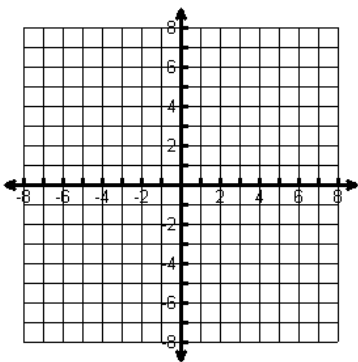
1)  $y = f(x + 2)$



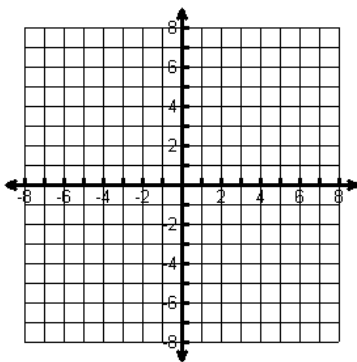
2)  $y = f(x) - 2$



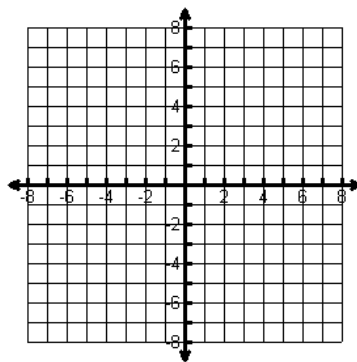
3)  $y = 2f\left(\frac{1}{2}x\right)$



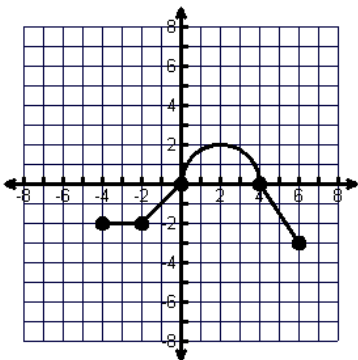
4)  $y = \frac{1}{2}f(x) - 2$



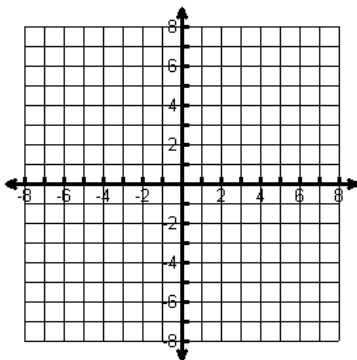
5)  $y = f(2x)$



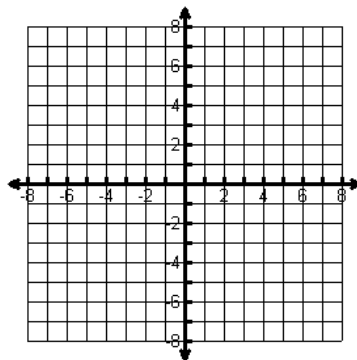
$y = g(x)$



6)  $y = g(-x)$



7)  $y = g(1 - x)$



Thursday, September 18

### Composite Functions

For each function listed below, evaluate  $f + g$ ,  $f - g$ ,  $fg$ ,  $\frac{f}{g}$ , and determine the domain of  $\frac{f}{g}$ .

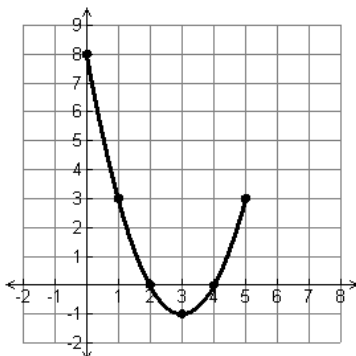
1)  $f(x) = x + 2$ ;  $g(x) = x - 2$

2)  $f(x) = x^2 + 6$ ;  $g(x) = x - 4$

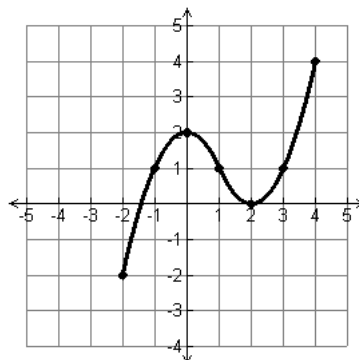
3)  $f(x) = 2x - 5$ ;  $g(x) = 5 - x$

4)  $f(x) = 3x^3 - 2x^2$ ;  $g(x) = 2x^2 - 3x + 1$

GIVEN:  $f(x)$



$g(x)$



Use the graphs above to evaluate each expression and answer the questions that follow.

- 1)  $f(2)$
- 2)  $g(0)$
- 3)  $g(-2)$
- 4)  $g(2)$
- 5)  $f(0)$
- 6)  $f(3)$
- 7)  $f(g(1))$
- 8)  $g(f(5))$
- 9)  $f(g(0))$
- 10)  $f(g(-2))$
- 11)  $f(g(2))$
- 12)  $f \circ g(-1)$
- 13)  $f \circ f(4)$
- 14)  $g \circ g(0)$
- 15)  $g \circ f \circ g(4)$
- 16) What is the domain of  $f(x)$ ?
- 17) What is the domain of  $g(x)$ ?
- 18) What is the range of  $f(x)$ ?
- 19) What is the range of  $g(x)$ ?
- 20) When is  $f(g(x)) = 8$ ?
- 21) When is  $g \circ f(x) = 4$ ?

Friday, September 19

### Composition of Functions (continued)

Determine the values of **a)**  $f \circ g$ , **b)**  $g \circ f$ , **c)**  $f \circ f(2)$ , and **d)**  $g \circ g(-1)$ , and state the domain of each composition in parts a) and b), for each of the pairs of functions listed below.

22)  $f(x) = x^2$ ;  $g(x) = x - 1$

23)  $f(x) = \sqrt[3]{x-1}$ ;  $g(x) = x^3 + 1$

24)  $f(x) = \sqrt{x+4}$ ;  $g(x) = x^2$

25)  $f(x) = |x|$ ;  $g(x) = x + 6$

26)  $f(x) = \frac{1}{x}$ ;  $g(x) = x + 3$

27)  $f(x) = \frac{3}{x^2 - 1}$ ;  $g(x) = x + 1$