Algebra I Chapter 5 **Name _____ Period _____**
Bringing it all together!!!

1. Write the equation of each function after the translation described.

   a. $f(x) = 2x$ after a translation 6 units to the right

   b. $f(x) = -4^x$ after a translation 3 units up

   c. $f(x) = 2x^2$ after a translation 5 units left

   d. $f(x) = 3x$ after a translation 2 units down

   e. $f(x) = -6x^2$ after a reflection over the x-axis

   f. $f(x) = 5^x$ after a reflection over the y-axis

   g. $f(x) = -4x$ after a translation 6 units left

2. Describe each graph in relation to its basic function.

   a. Compare $g(x) = b^x - 8$ to the basic function $f(x) = b^x$

   b. Compare $g(x) = b^{-x}$ to the basic function $f(x) = b^x$

   c. Compare $g(x) = (x+1)$ to the basic function $f(x) = x$

   d. Compare $g(x) = -6x^2$ to the basic function $f(x) = 6x^2$

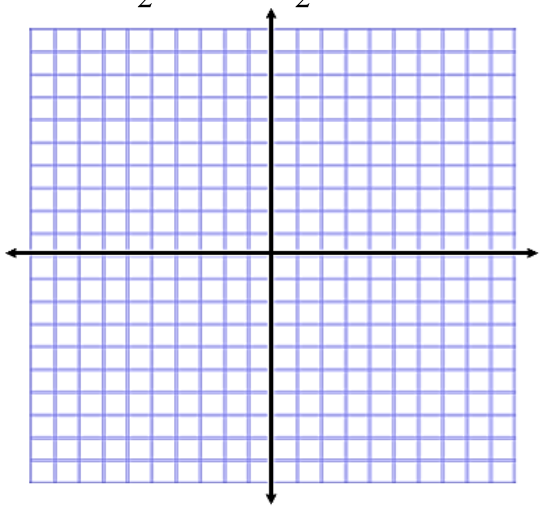
   e. Compare $g(x) = (x-1)^2$ to the basic function $f(x) = x^2$

   f. Compare $g(x) = b^{(x+8)}$ to the basic function $f(x) = b^x$

3. Graph each function. Then graph the transformation.

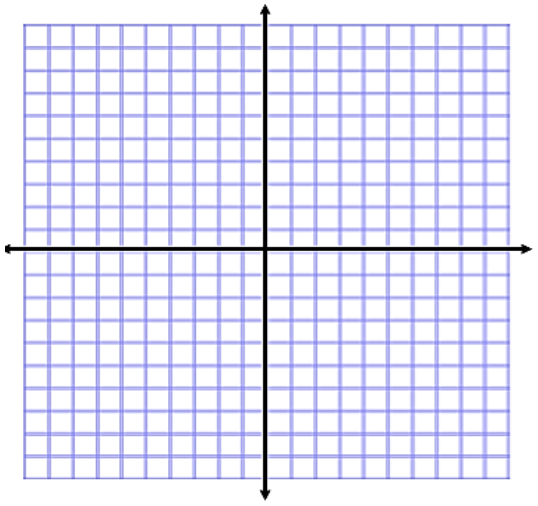
a. $f(x)=\frac{1}{2}x;\ g(x)=\frac{1}{2}x+3$

x	y
-2	
-1	
0	
1	
2	



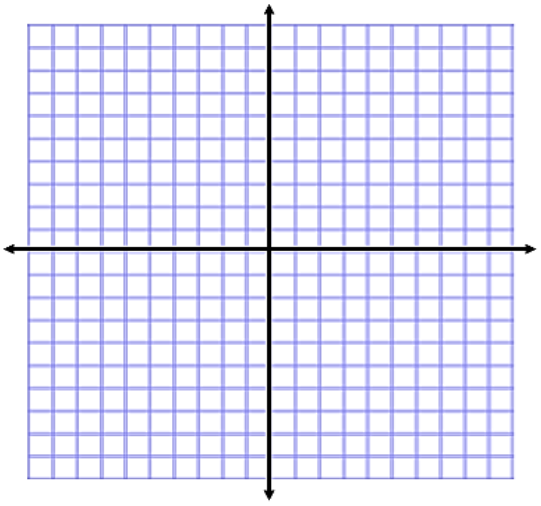
b. $f(x)=2^x;\ g(x)=2^{(x-3)}$

x	y
-1	
0	
1	
2	
asym	



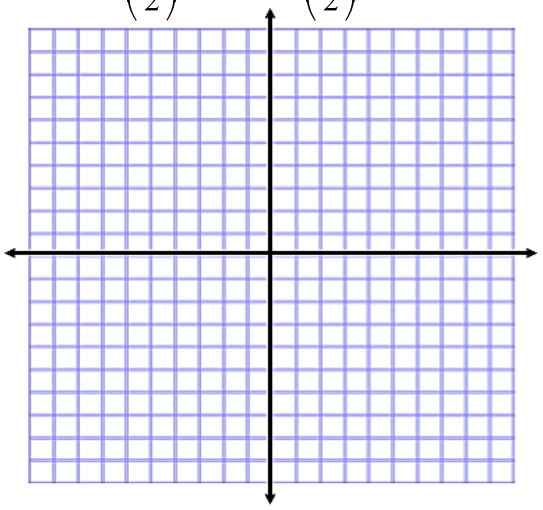
c. $f(x)=2x;\ g(x)=-2x$

x	y
-2	
-1	
0	
1	
2	



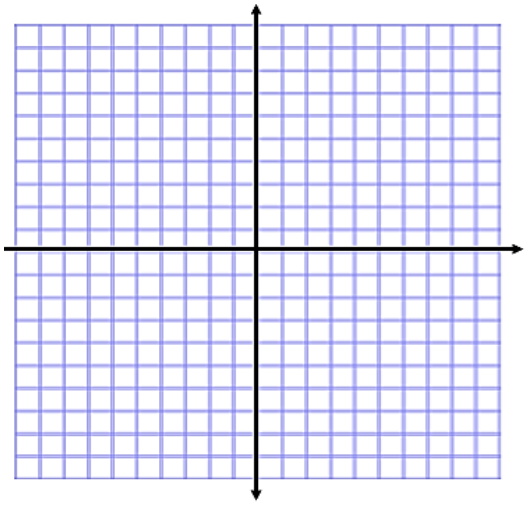
d. $f(x)=\left(\frac{1}{2}\right)^x;\ g(x)=\left(\frac{1}{2}\right)^x-3$

x	y
–3	
-2	
-1	
0	
1	
asym	



e. $f(x)=3^x;\ g(x)=3^{-x}$

x	y
-1	
0	
1	
2	
asym	



f. Bonus ☺ $f(x)=x^2;$
$g(x)=(x+1)^2+3$

x	y
-2	
-1	
0	
1	
2