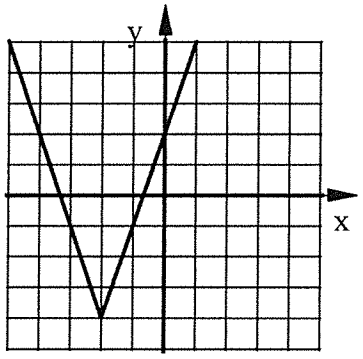
Alg 2 Review Topic 3 Transforming Functions Fall 2019

1. Describe ALL of the tranformations of $f(x)$ shown in this equation: $y = -5f(x-8)+2$

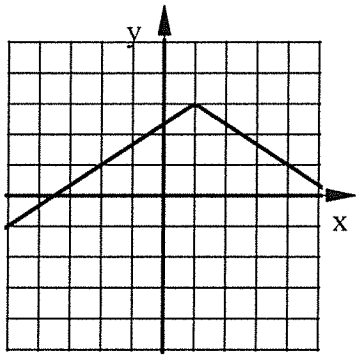
2. $g(x)$ is a transformation of the function $f(x)$. If $f(x) = 2f(x+3)-1$ and $g(x) = -6f(x-2)+5$ describe ALL of the transformations performed on $f(x)$ in order to create $g(x)$.

3. Write the equation of each transformation of the Parent Absolute Value Function shown below. Given your answer in $y = a|x-h|+k$ form.

a.

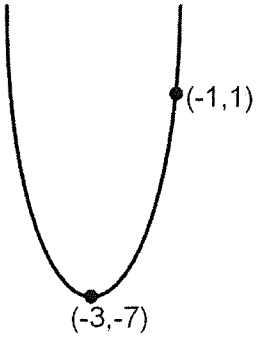


b.

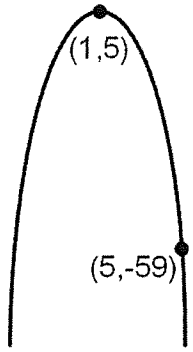


4. Write the equation of each parabola in Vertex Form: $y = a(x-h)^2+k$

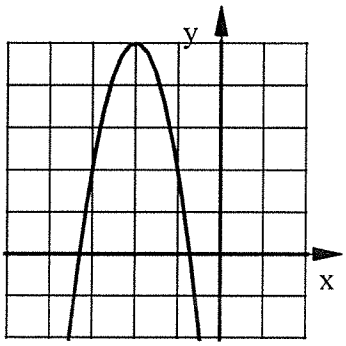
a.



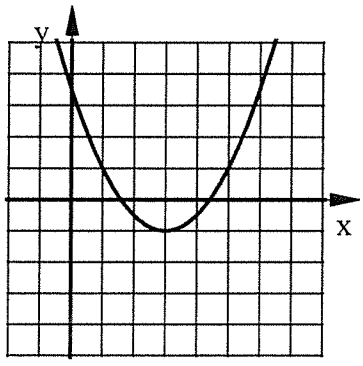
b.



c.



d.



5. Graph each parabola using the five main points.

a. $y = -2(x-2)^2+3$ b. $y = 4(x+3)^2-9$

6. Let $f(x) = |x|$ and $g(x) = 5f(-x) - 6$
Complete the table of values for g(x).

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

7. Let $f(x) = x^2$ and $g(x) = -2f(x) + 4$
Complete the table of values for g(x).

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

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ANSWERS

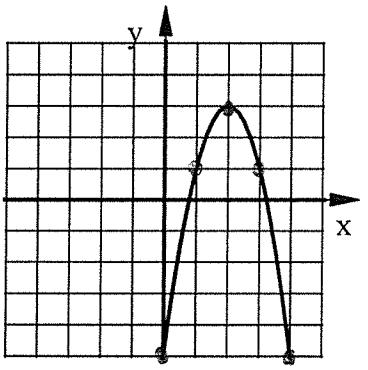
1. •x-axis reflection •Vertical Stretch: 5 times taller •Horizontal Shift: 8 to the right •Vertical Shift: 2 up

2. •x-axis reflection •Vertical Stretch: 3 times taller •Horizontal Shift: 5 to the right •Vertical Shift: 6 up

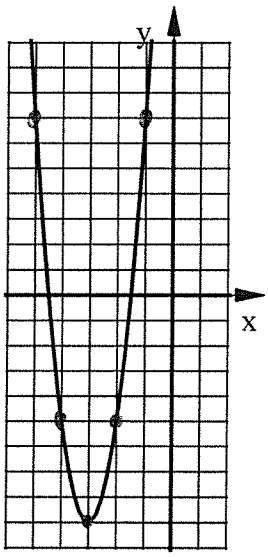
3. a. $y = 3|x + 2| - 4$ b. $y = -\frac{2}{3}|x - 1| + 3$

4. a. $y = 2(x + 3)^2 - 7$ b. $y = -4(x - 1)^2 + 5$ c. $-3(x + 2)^2 + 5$ d. $\frac{1}{2}(x - 3)^2 - 1$

5. a.



b.



6.

x	$g(x)$
-2	4
-1	-1
0	-6
1	-1

7.

x	$g(x)$
-2	-4
-1	2
0	4
1	2