Algebra 2

Name _____

Worksheet #2 Lesson 2.1

Block ____ Date _____

Identify each transformation in each equation.

1. $f(x) = 2(x + 1)^2 - 4$
2. $f(x) = -\left(\frac{1}{3}x\right)^2 + 9$
3. $f(x) = \frac{2}{5}(x - 6)^2$
4. $f(x) = -4(x + 7)^2 - 1$
5. $f(x) = (4x + 5)^2 + 7$
6. $f(x) = \frac{1}{2}x^2 + 6$
7. $f(x) = x^2 - 9$
8. $f(x) = 5(x + 6)^2 - 10$
9. $f(x) = \left(\frac{1}{2}x\right)^2 + 2$
10. $f(x) = -3(x + 7)^2 - 12$
11. $f(x) = (5x)^2$
12. $f(x) = -(2x - 1)^2$
13. $f(x) = (x + 8)^2 + 2$
14. $f(x) = (x - 11)^2 - 9$

Write each function in the form $g(x) = a(x - h)^2 + k$.

15. The parent function $f(x) = x^2$ is vertical compressed by a factor of $\frac{2}{3}$, translated 4 units right, and one unit up. Create g(x).

16. The parent function $f(x) = x^2$ is reflected across the x – axis, vertically stretched by a factor of 8, translated 8 unit left, and 3 units down. Create g(x).

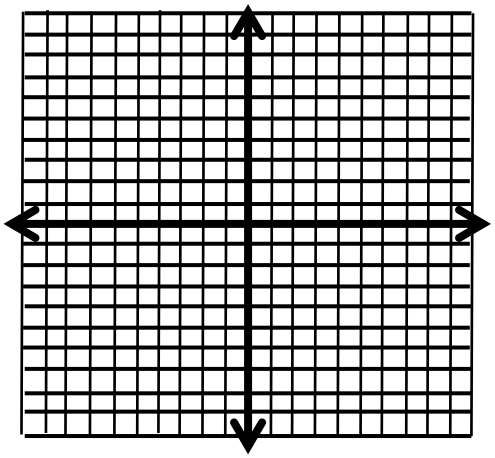
17. The parent function $f(x) = x^2$ is vertically stretched by a factor of 4 and translated up 4 units. Create g(x).

18. The parent function $f(x) = x^2$ is reflected across the x – axis and translated right 8 units. Create g(x).

Graph each function.

19. $f(x) = x^2 - 2x + 3$

x	$f(x) = x^2 - 2x + 3$	(x, f(x))
-1		
0		
1		
2		
3		



20. $f(x) = -2x^2 + 16x - 29$

x	$f(x) = -2x^2 + 16x - 29$	(x, f(x))
2		
3		
4		
5		
6