Math 2 Name: _____
Unit 4 Review Sheet

I. Complete the Square then write as (side length)^2.

1. $x^2 - 14x + \_\_\_\_$ 2. $x^2 + 40x + \_\_\_\_$ 3. $x^2 - 3x + \_\_\_\_$ 4. $x^2 + \_\_\_\_x + 81$

_____ _____ _____ _____

II. Write the equation of a parabola with the following transformations in Vertex Form.

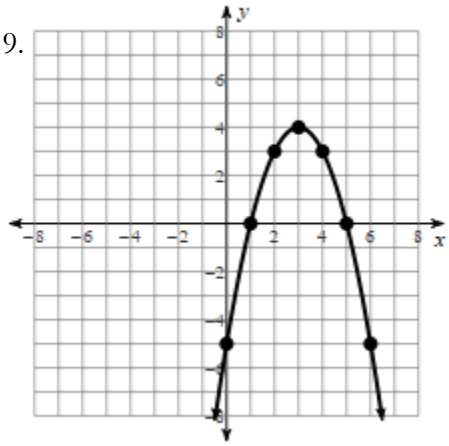
5. Shifted right 3, Reflected over the x-axis, vertical stretch by a factor of 4, up 7 _____

6. Vertical compression by a factor of $\frac{2}{3}$, shifted down 3 units and left 5 units. _____

III. Write in Vertex Form, state the vertex, and list all the transformations

7. $f(x) = x^2 + 24x + 56$ 8. $f(x) = 4x^2 - 16x - 5$

9.



10.

x	y
-3	-11
-2	-5
-1	-3
0	-5
1	-11

IV. Key Features

11. Use question #9 above to answer the following questions:

Axis of Symmetry: _____ Vertex: _____ y – intercept: _____

# of x-intercepts: _____ Max or Min? _____ Second Difference: _____

12. Use question #10 above to answer the following questions:

Axis of Symmetry: _____ Vertex: _____ y – intercept: _____

# of x-intercepts: _____ Max or Min? _____ Second Difference: _____

V. Expand to write the Vertex Form equation in Standard Form.

13. $f(x) = (x-6)^2 + 15$

14. $f(x) = -3(x-1)^2 + 7$

VI. Factor Completely

15. $x^2 + 9x + 20$

16. $x^2 - 36$

17. $2x^2 + 8x - 42$

18. $3x^2 - 23x - 36$

19. $-x^2 + 7x + 8$

20. $5x^2 - 125$