**WHAT IS THE EQUATION?**

Determine the equation in vertex form: y = a(x-h)2 + k

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|  | The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_Another point is \_\_\_\_\_\_\_\_\_\_\_\_\_ |
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| The vertex is (4, -2). Another point is (7, 1). | The vertex is (2, 0). Another point is (0, -2). |
| The vertex is (0, -3). Another point is (1, -4). | The vertex is (-3, -4). Another point is (-2, 1). |
| The vertex is (-4, 8). Another point is (0, 0). | The vertex is (5, 1). Another point is (1, 5). |

1. Find the equation of the parabola with vertex (0,-6), opening down and a vertical compression factor of 1/3 .
2. Find the equation of the parabola with vertex (0,4), opening down and vertical stretch by a factor of 2.
3. Find the equation of the parabola compressed vertically by a factor of one-quarter, and then translated 4 units to the right and one unit up.
4. What happens to the point (3,9) on the graph of y=x2 when the parabola is reflected about the x-axis then stretched vertically by a factor of two?
5. Find the value of k so that the parabola $y=-\frac{1}{3}x^{2}+k$ passes through (6,8).
6. Find the value of a and k so that the parabola passes through the points (1,-1) and (2,5) The parabola is in the form y = ax2 +k
7. Write an equation for the parabola with a vertex  passing through .

Homework: p. 185 #6-10