

Name:

Date:

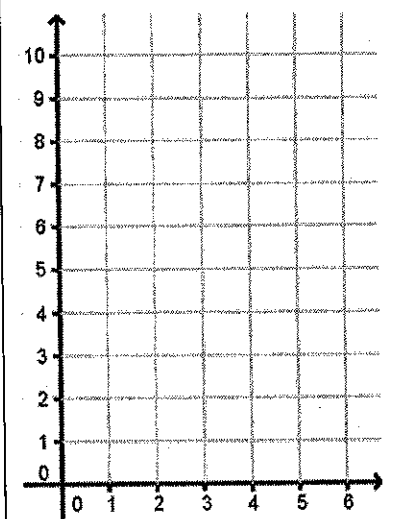
Period:

Practice Worksheet: Graphing Quadratic Functions in Vertex Form

For #1-6, label the axis of symmetry, vertex, y-intercept, and at least three more points on the graph.

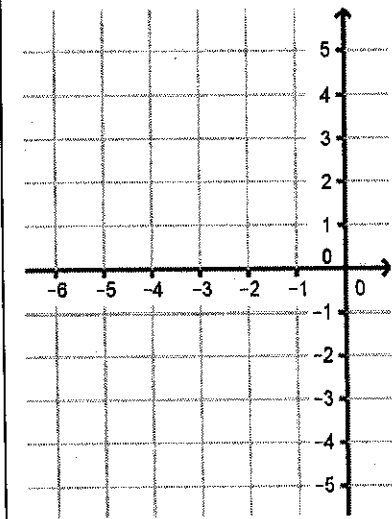
1] $y = (x - 3)^2$
 Axis of Symmetry is $x =$ _____
 Vertex: (____, ____)
 Opens up or down?

 y-intercept: (0, ____)



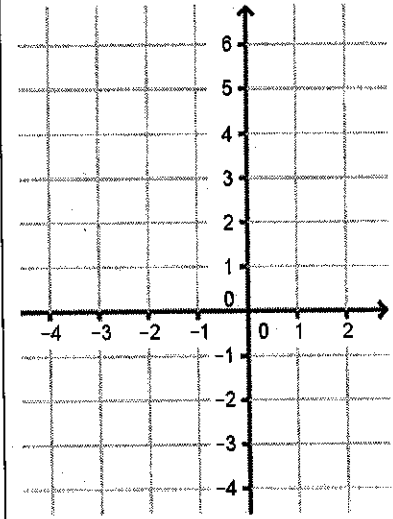
2] $y = -(x + 3)^2 + 5$
 Axis of Symmetry is $x =$ _____
 Vertex: (____, ____)
 Opens up or down?

 y-intercept: (0, ____)



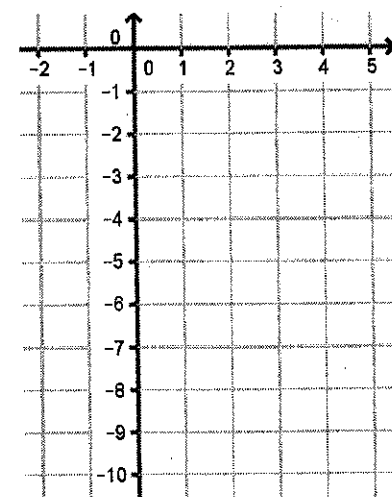
3] $y = 2(x + 1)^2 - 3$
 Axis of Symmetry is $x =$ _____
 Vertex: (____, ____)
 Opens up or down?

 y-intercept: (0, ____)



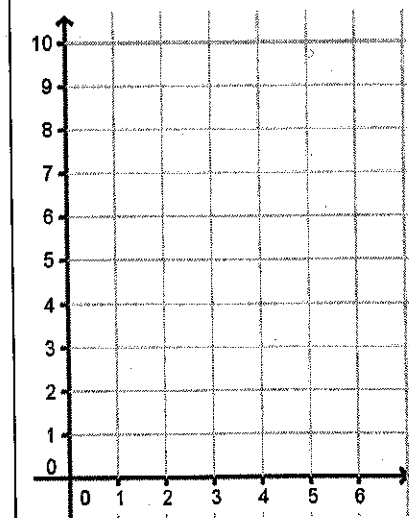
4] $y = -2(x - 2)^2 - 1$
 Axis of Symmetry is $x =$ _____
 Vertex: (____, ____)
 Opens up or down?

 y-intercept: (0, ____)



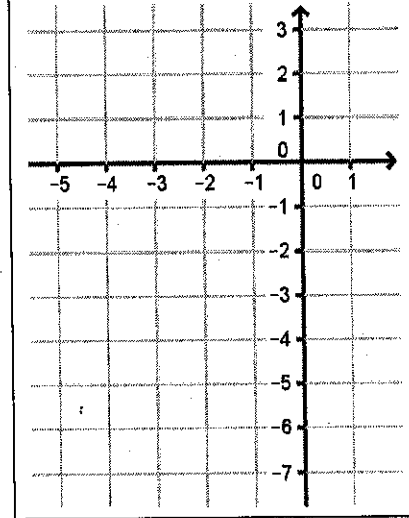
5] $y = \frac{1}{2}(x - 3)^2 + 2$
 Axis of Symmetry is $x =$ _____
 Vertex: (____, ____)
 Opens up or down?

 y-intercept: (0, ____)



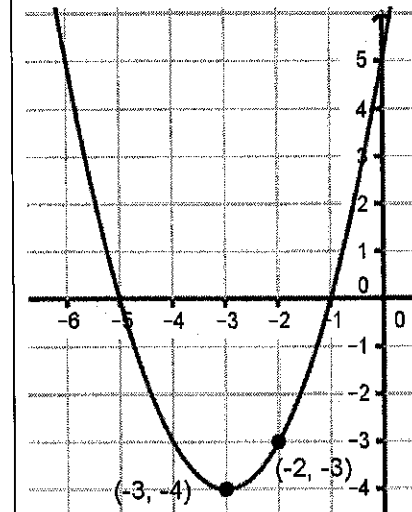
6] $y = -\frac{1}{4}(x + 2)^2 + 1$
 Axis of Symmetry is $x =$ _____
 Vertex: (____, ____)
 Opens up or down?

 y-intercept: (0, ____)

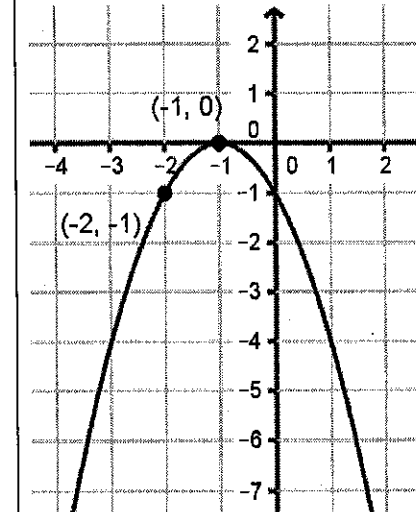


Write the equation of the parabola in vertex form.

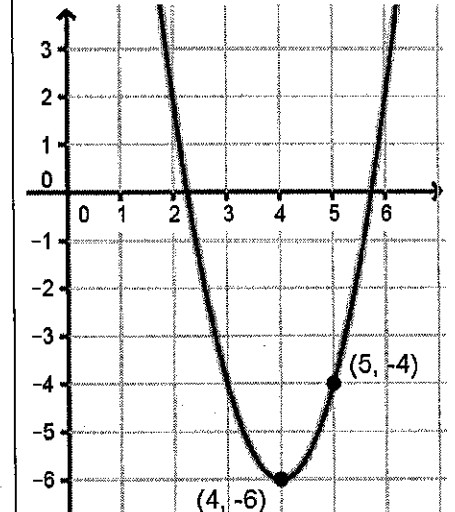
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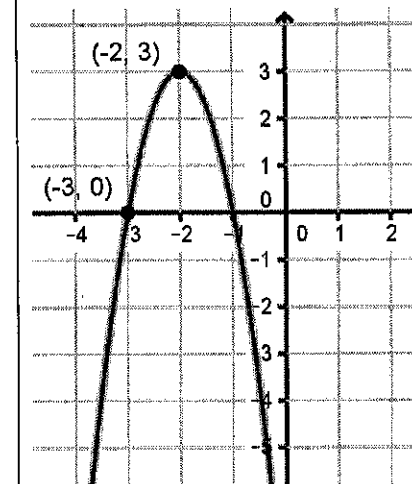
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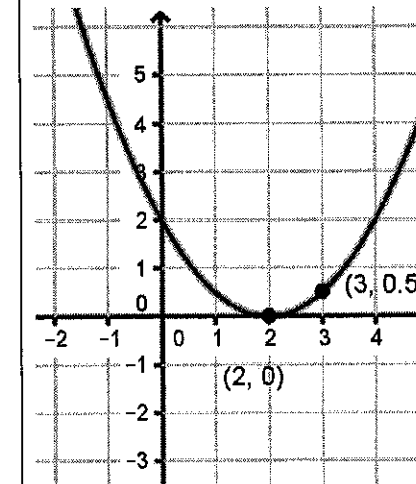
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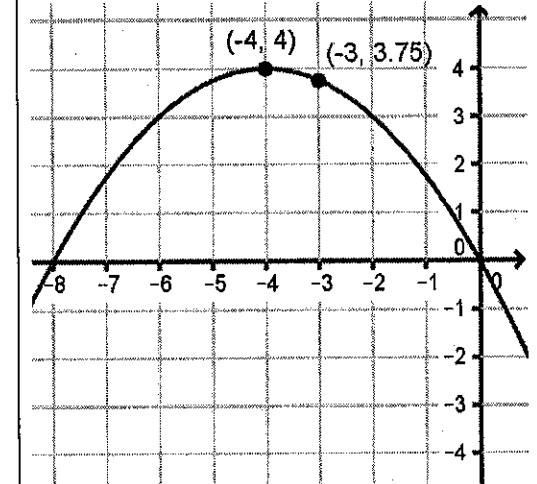
10]



11]



12]



Write the quadratic function in standard form.

13] $y = -(x + 2)^2$

14] $y = (x - 2)^2 + 4$

15] $y = 2(x - 3)^2 + 9$

Factoring Trinomials ($a > 1$)

Factor each completely.

1) $3p^2 - 2p - 5$

2) $2n^2 + 3n - 9$

3) $3n^2 - 8n + 4$

4) $5n^2 + 19n + 12$

5) $2v^2 + 11v + 5$

6) $2n^2 + 5n + 2$

7) $7a^2 + 53a + 28$

8) $9k^2 + 66k + 21$