

Name \_\_\_\_\_

period \_\_\_\_\_

### Graphing from All Forms

For each function below, identify the form, the concavity, and one key feature of the graph. Then find the axis of symmetry and the vertex (if you hadn't already). Finally, graph the parabola including the vertex and at least 2 other points.

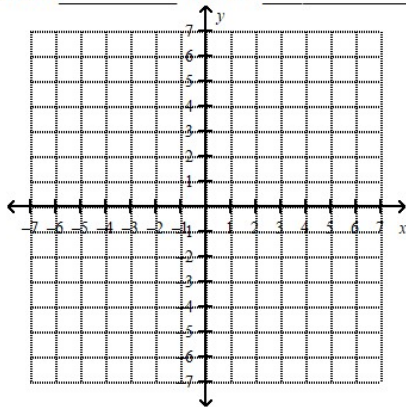
1.  $f(x) = x^2 - 6x + 3$

Form: \_\_\_\_\_

Concavity: \_\_\_\_\_

Feature: \_\_\_\_\_

AoS: \_\_\_\_\_ Vertex: \_\_\_\_\_



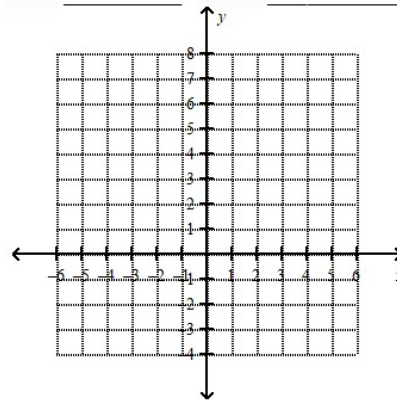
2.  $f(x) = -2(x+3)(x-1)$

Form: \_\_\_\_\_

Concavity: \_\_\_\_\_

Feature: \_\_\_\_\_

AoS: \_\_\_\_\_ Vertex: \_\_\_\_\_



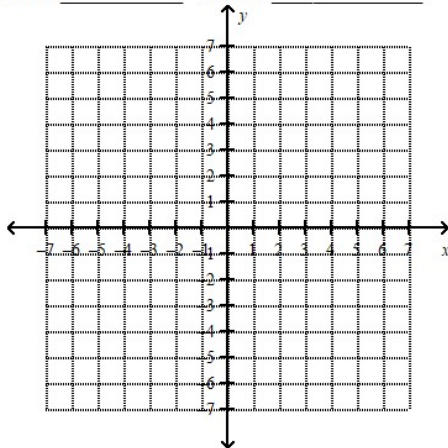
3.  $f(x) = 3(x+2)^2 - 5$

Form: \_\_\_\_\_

Concavity: \_\_\_\_\_

Feature: \_\_\_\_\_

AoS: \_\_\_\_\_ Vertex: \_\_\_\_\_



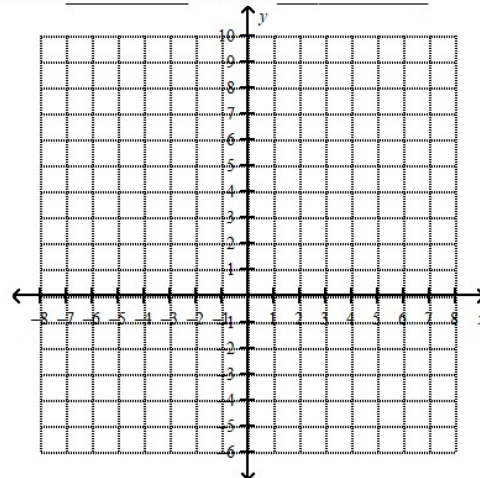
4.  $f(x) = -2x(x+4)$

Form: \_\_\_\_\_

Concavity: \_\_\_\_\_

Feature: \_\_\_\_\_

AoS: \_\_\_\_\_ Vertex: \_\_\_\_\_



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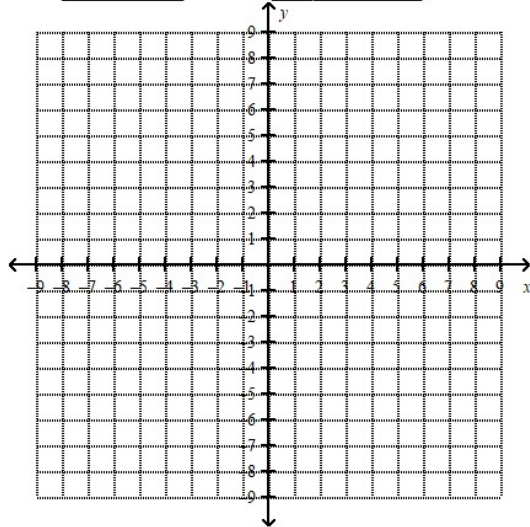
5.  $f(x) = -x^2 - 8x - 7$

Form: \_\_\_\_\_

Concavity: \_\_\_\_\_

Feature: \_\_\_\_\_

AoS: \_\_\_\_\_ Vertex: \_\_\_\_\_



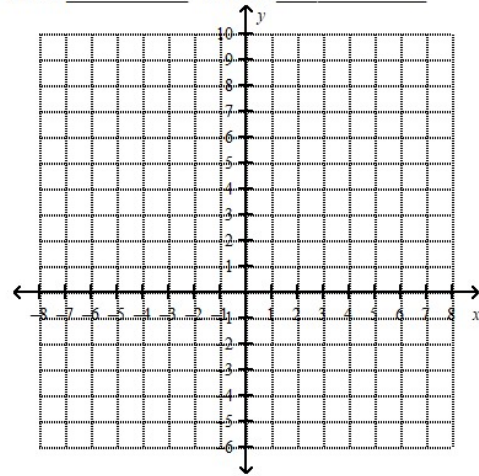
6.  $f(x) = \frac{1}{2}(x - 1)^2 + 2$

Form: \_\_\_\_\_

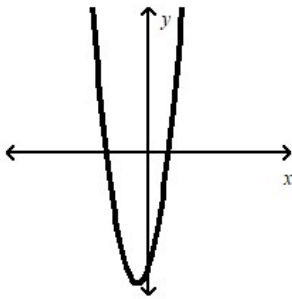
Concavity: \_\_\_\_\_

Feature: \_\_\_\_\_

AoS: \_\_\_\_\_ Vertex: \_\_\_\_\_

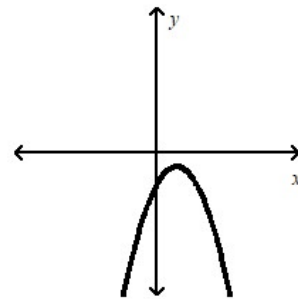


For each problem below, decide equation *could* be represented by the given graph.



7.

- a.  $y = -2(x + 1)^2 - 7$
- b.  $y = 3x^2 - 6x + 7$
- c.  $y = 3(x + 4)(x - 2)$
- d.  $y = 2(x - 4)(x - 2)$



8.

- a.  $y = -2(x - 2)^2 - 1$
- b.  $y = x^2 - 4x - 3$
- c.  $y = -3(x - 2)(x - 1)$
- d.  $y = -(x + 2)^2 - 1$