

NAME \_\_\_\_\_

**Module 14** Graphing Quadratic Relations  
**Lesson 2** Graphing Quadratic Relations by Analysis

**guided practice**

**Set 1**

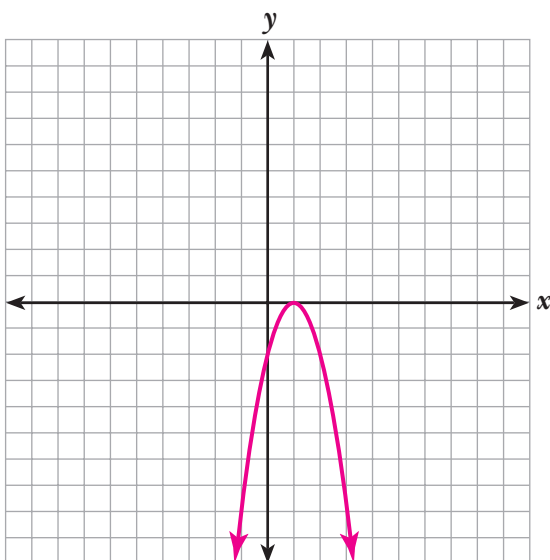
- Does the graph of  $y = -2x^2$  open up or down? The graph of  $y = -2x^2$  opens down.
- Compare the graphs of  $y = \frac{3}{4}x^2$  and  $y = 4x^2$ . The vertex is  $(0, 0)$ , and both parabolas open up. The graph of  $y = \frac{3}{4}x^2$  is wider than the graph of  $y = 4x^2$ .
- Compare the graphs of  $y = -5x^2$  and  $y = 3x^2$ . The vertex is  $(0, 0)$ . The graph of  $y = -5x^2$  opens down, and the graph of  $y = 3x^2$  opens up. The graph of  $y = 3x^2$  is wider than the graph of  $y = -5x^2$ .

**Set 2**

- Find the vertex of  $y = -2(x - 1)^2$ .

V(1, 0)

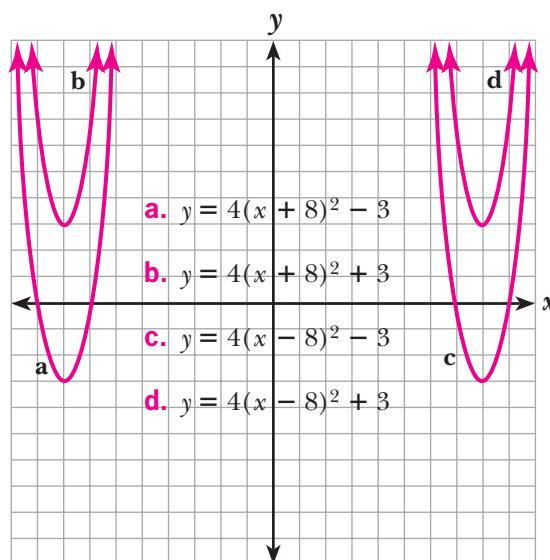
- Graph  $y = -2(x - 1)^2$ .



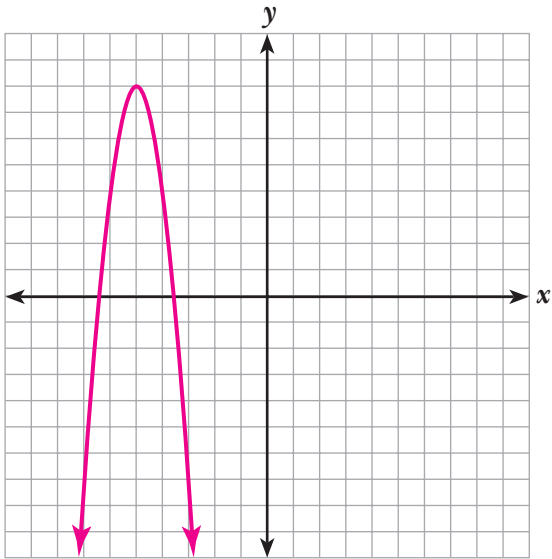
- Find the vertex of  $y = (x + 1.9)^2 - 0.87$ .

V(-1.9, -0.87)

- Match each equation with the correct parabola.



5. Describe  $y = -4(x + 5)^2 + 8$ . **Vertex:  $(-5, 8)$ , Axis of symmetry:  $x = -5$ ,**  
**The parabola opens down and is narrower than  $y = x^2$ .**
6. Graph  $y = -4(x + 5)^2 + 8$ .



7. Find the vertex of  $y = x^2 - 4x + 3$ .  **$V(2, -1)$**