4.10 EXERCISES

HOMEWORK KEY

= **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 19, 35, and 49

= **TAKS PRACTICE AND REASONING** Exs. 15, 16, 43, 44, 51, 53, and 54

= **MULTIPLE REPRESENTATIONS** Ex. 50

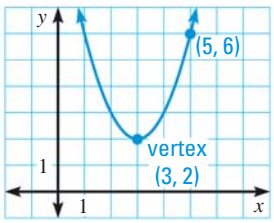
SKILL PRACTICE

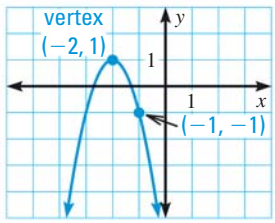
1. **VOCABULARY** Copy and complete: When you perform quadratic regression on a set of data, the quadratic model obtained is called the ___?___.

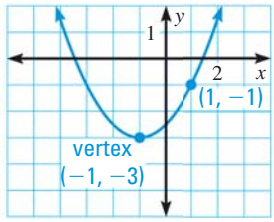
2. **WRITING** *Describe* how to write an equation of a parabola if you know three points on the parabola that are not the vertex or x-intercepts.

EXAMPLE 1 on p. 309 for Exs. 3–15

WRITING IN VERTEX FORM **Write a quadratic function in vertex form for the parabola shown.**

3. 

4. 

5. 

WRITING IN VERTEX FORM **Write a quadratic function in vertex form whose graph has the given vertex and passes through the given point.**

6. vertex: $(-4, 1)$
point: $(-2, 5)$

7. vertex: $(1, 6)$
point: $(-1, 2)$

8. vertex: $(5, -4)$
point: $(1, 20)$

9. vertex: $(-3, 3)$
point: $(1, -1)$

10. vertex: $(5, 0)$
point: $(2, -27)$

11. vertex: $(-4, -2)$
point: $(0, 30)$

12. vertex: $(2, 1)$
point: $(4, -2)$

13. vertex: $(-1, -4)$
point: $(2, -1)$

14. vertex: $(3, 5)$
point: $(7, -3)$

15. **TAKS REASONING** The vertex of a parabola is $(5, -3)$ and another point on the parabola is $(1, 5)$. Which point is also on the parabola?

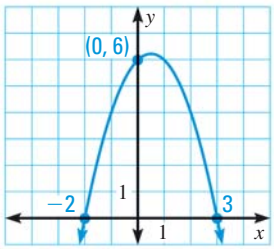
Ⓐ $(0, 3)$ Ⓑ $(-1, 9)$ Ⓒ $(-1, 15)$ Ⓓ $(7, 7)$

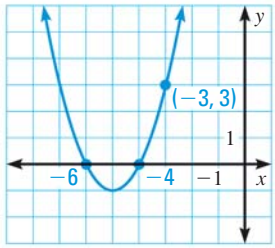
EXAMPLE 2 on p. 309 for Exs. 16–26

16. **TAKS REASONING** The x-intercepts of a parabola are 4 and 7 and another point on the parabola is $(2, -20)$. Which point is also on the parabola?

Ⓐ $(1, 21)$ Ⓑ $(8, -4)$ Ⓒ $(5, -40)$ Ⓓ $(5, 4)$

WRITING IN INTERCEPT FORM **Write a quadratic function in intercept form for the parabola shown.**

17. 

18. 

19.