Name _____ Date _____

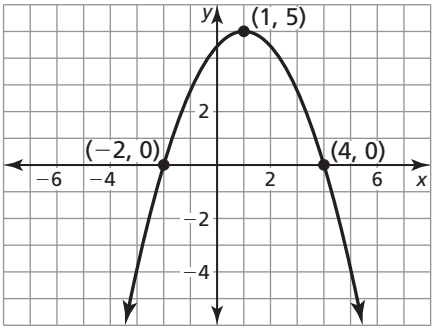
2.7 Practice A

In Exercises 1–3, write an equation of the parabola in vertex form.

1. passes through $(6, 4)$ and has vertex $(2, -3)$
2. passes through $(-3, -10)$ and has vertex $(3, -8)$
3. passes through $(0, -5)$ and has vertex $(-1, 4)$

In Exercises 4–6, write an equation of the parabola in intercept form.

4. x-intercepts of 10 and 6; passes through $(11, 8)$
5. x-intercepts of 2 and 8; passes through $(0, 3)$
6. x-intercepts of -14 and -2; passes through $(-16, -8)$
7. Use the parabola shown.



   a. Write an equation of the parabola in vertex form.

   b. Expand the equation in part (a) to the form $y = ax^2 + bx + c$.

   c. Write an equation of the parabola in intercept form.

   d. Expand the equation in part (c) to the form $y = ax^2 + bx + c$.

   e. Do both methods give an equation that represents the parabola? Which method did you find easier? Explain.

8. A basketball is thrown up in the air. The table shows the heights y (in feet) of the basketball after x seconds. Write and solve an equation to determine how long the ball is above 6 feet. How long is the ball in the air?

Time, *x*	0	6	12	18
Basketball height, *y*	5	10	10	5