

2.4 Practice A

In Exercises 1–4, 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 $(-1, 4)$ 4. passes through $(5, -4)$ and has vertex $(-2, 5)$

In Exercises 5–8, write an equation of the parabola in intercept form.

5. x -intercepts of 10 and 6; passes through $(11, 8)$ 6. x -intercepts of 2 and 8; passes through $(0, 3)$

7. x -intercepts of -14 and -2 ; passes through $(-16, -8)$ 8. x -intercepts of -9 and 9 ; passes through $(0, 4)$

9. A basketball is thrown up in the air toward the hoop. The table shows the heights y (in feet) of the basketball after x seconds. Find the height of the basketball after 5 seconds. Round your answer to the nearest hundredth.

Time, x	0	9	18
Basketball height, y	6	10	6

10. The graph shows the area y (in square feet) of rectangles that have a perimeter of 200 feet and a length of x feet.

- a. Interpret the meaning of the vertex in this situation.
- b. Write an equation for the parabola to predict the area of the rectangle when the length is 2 feet.

