

**2.4****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  $(-1, 4)$
4. 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.

<b>Time, <math>x</math></b>	0	9	18
<b>Basketball height, <math>y</math></b>	6	10	6

5. Use Quadratic regression to model the table.

<b>Time (seconds), <math>x</math></b>	1	2	3	4	5
<b>Height (feet), <math>y</math></b>	73.5	78.4	73.5	58.8	34.3

6. Use Quadratic regression to model the table.

<b>Units sold, <math>x</math></b>	1	2	3	4	5
<b>Profit (thousands of dollars), <math>y</math></b>	39	60	75	84	87