Name _____

# 2-2 Additional Practice

## Standard Form of a Quadratic Function

**Find the vertex of a quadratic function written in standard form.**

**1.** $f(x) = 3x^2 + 18x + 32$ **2.** $f(x) = x^2 + 2x - 5$ **3.** $f(x) = -3x^2 + 18x - 27$

**Find the vertex, axis of symmetry, and *y*-intercept of the functions, then sketch the graph.**

**4.** $f(x) = x^2 - 8x + 19$

Vertex
Axis of symmetry
*Y*-intercept

**5.** $f(x) = -2x^2 - 4x + 6$

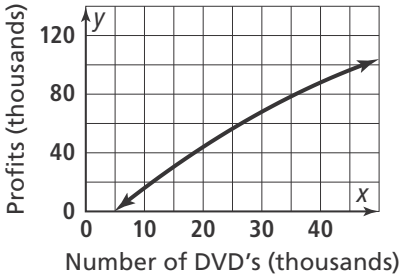
Vertex
Axis of symmetry
*Y*-intercept

**Interpret the graph of a quadratic function.**

**6.** A small independent movie company determines the profit $P$ for producing $n$ DVD copies of a recent release is $P = -0.02n^2 + 3.40n - 16$. $P$ is the profit in thousands of dollars and $n$ is in thousands of units.

**a.** How many DVDs should the company produce to maximize the profit?

**b.** What will the maximum profit be?




**What is the equation of a parabola that passes through the following points?**

**7.** (1, –1), (2, –5), (3, –7) **8.** (2, –8), (3, –8), (6, 4) **9.** (–3, 2), (1, –6), (4, 9)