



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

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

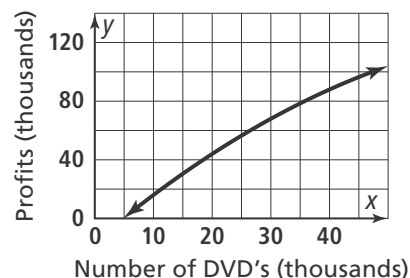
Vertex
Axis of symmetry
Y-intercept

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. $(-3, 2), (1, -6), (4, 9)$