

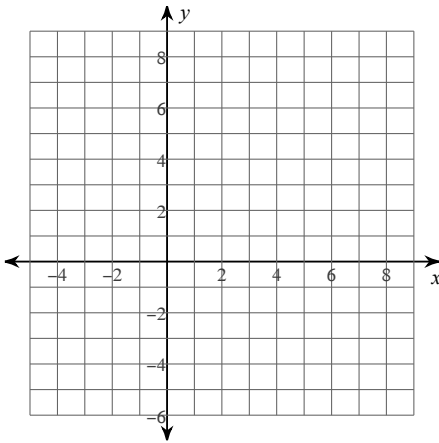
5.2 Graphing Basics

1) Describe how to graph a parabola.

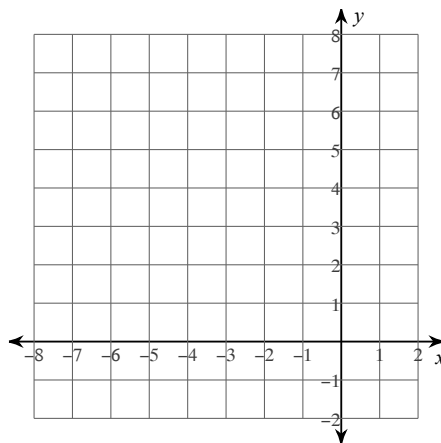
2) Describe the growth rate of a quadratic.

Graph each equation given the vertex.

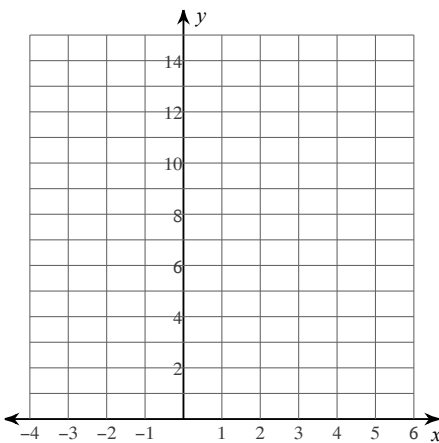
3) $y = 3(x - 1)^2 - 4$
Vertex: (1, -4)



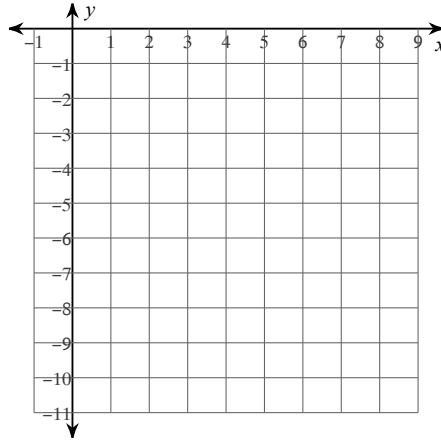
4) $y = (x + 3)^2 - 1$
Vertex: (-3, 1)



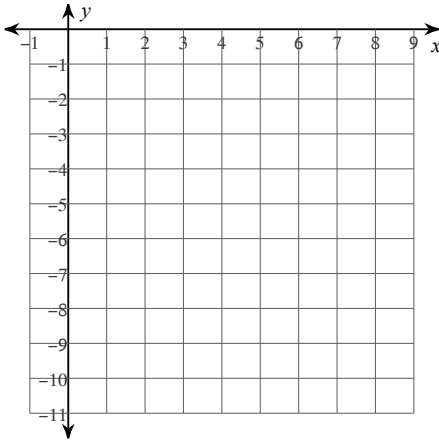
5) $y = 2(x - 2)^2 + 4$
Vertex: (2, 4)



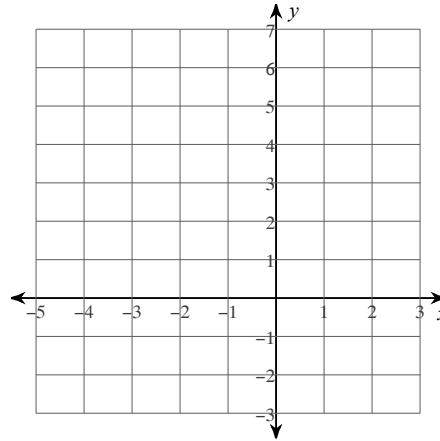
6) $y = -2x^2 + 8x - 10$
Vertex: (2, -2)



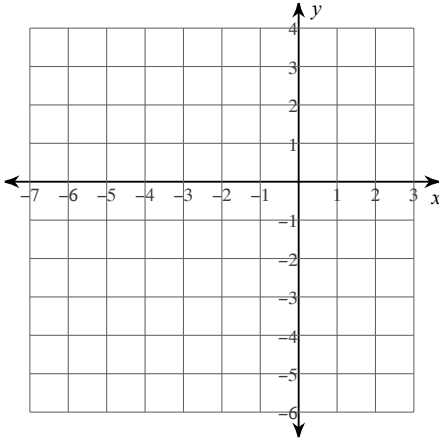
7) $y = -x^2 + 8x - 20$
 Vertex: $(4, -4)$



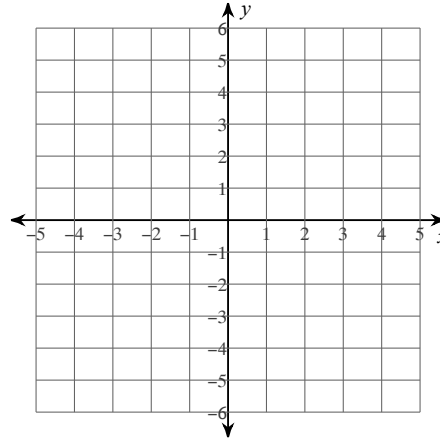
8) $y = 2x^2 + 4x$
 Vertex: $(-1, -2)$



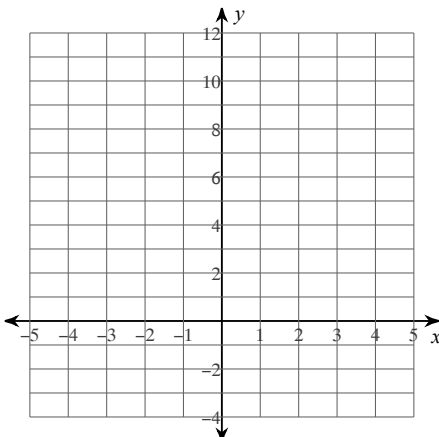
9) $y = x^2 + 8x + 12$
 Vertex: $(-4, -4)$



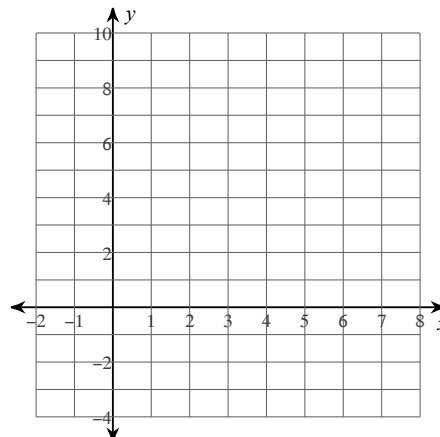
10) $y = (x + 2)(x - 2)$
 Vertex: $(0, -4)$



11) $y = 4(x + 1)(x + 3)$
 Vertex: $(-2, -4)$

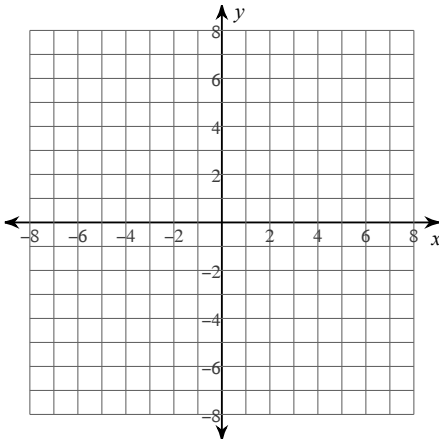


12) $y = -(x - 5)(x + 1)$
 Vertex: $(2, 9)$



Sketch the graph. Then identify the key features using interval notation.

13) $f(x) = -(x + 4)(x + 2)$
Vertex: $(-3, 1)$



- 14) a. x-intercept(s): b. y-intercept:
- c. axis of symmetry:
- d. vertex:
- e. Max/Min Value:
- f. Direction of Opening
- g. Domain: h. Range:
- i. Increasing: j. Decreasing:
- k. Positive: l. Negative:
- m. End behavior:

Sketch the graph. Then identify the key features using inequalities.

15) a. x-intercept(s): b. y-intercept:

- c. axis of symmetry:
- d. vertex:
- e. Max/Min Value:
- f. Direction of Opening
- g. Domain: h. Range:
- i. Increasing: j. Decreasing:
- k. Positive: l. Negative:
- m. End behavior:

16) $h(x) = \frac{1}{2}(x - 2)^2 - 8$
Vertex: $(2, -8)$

