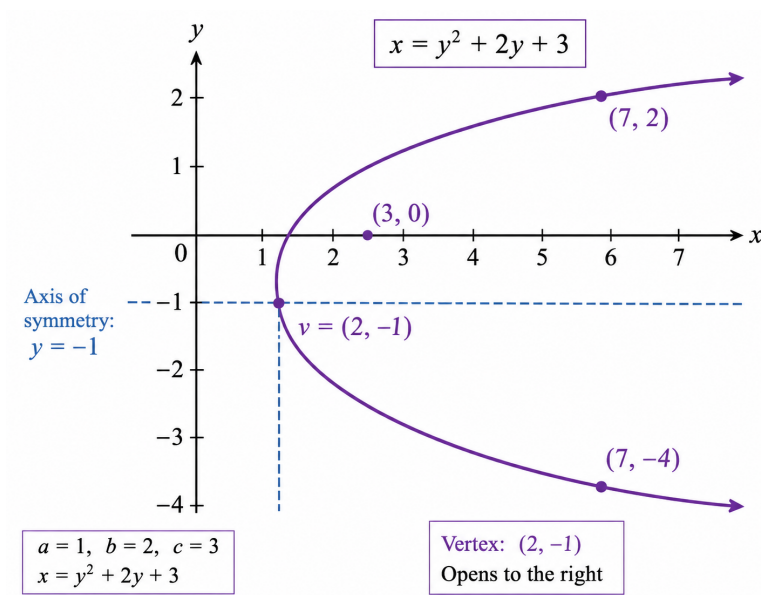
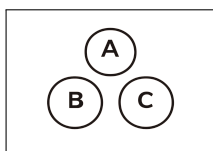


18 Functions and Graphs

Parabola / Quadratic

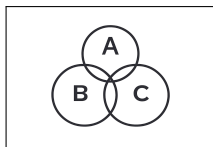
C



$$a = 1, b = 2, c = 3$$

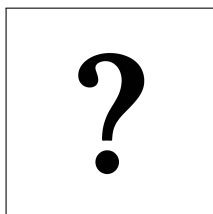
$$x = y^2 + 2y + 3$$

$$v = (g(-b/2a), -b/2a) = (2, -1)$$



$$x = ay^2 + by + c$$

$$v = (g(-b/2a), -b/2a)$$



$$a = 4, b = 3, c = 1$$

$$x = ?$$

$$y = ?$$

$$v = ?$$

18 Functions and Graphs

Parabola / Quadratic

C



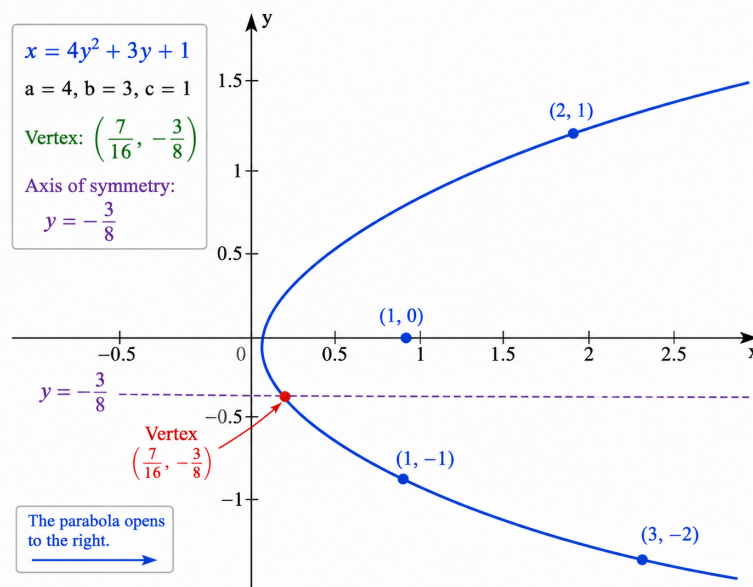
$$x = 4y^2 + 3y + 1$$

$$a = 4, b = 3, c = 1$$

$$\text{Vertex: } \left(\frac{7}{16}, -\frac{3}{8} \right)$$

Axis of symmetry:

$$y = -\frac{3}{8}$$



The parabola opens
to the right.

$$a = 4, b = 3, c = 1$$

$$x = 4y^2 + 3y + 1$$

$$y = \frac{-b}{2a} = \frac{-3}{2(4)} = -\frac{3}{8}$$

$$x = 4\left(-\frac{3}{8}\right)^2 + 3\left(-\frac{3}{8}\right) + 1 = 4\left(\frac{9}{64}\right) - \frac{9}{8} + 1 = \frac{28}{64} = \frac{7}{16}$$

$$v = \left(\frac{7}{16}, -\frac{3}{8} \right)$$