

1. Answer each question by using the graph of the quadratic function:

a. What is the y-intercept?

$$(0, 5)$$

b. What are the x-intercepts?

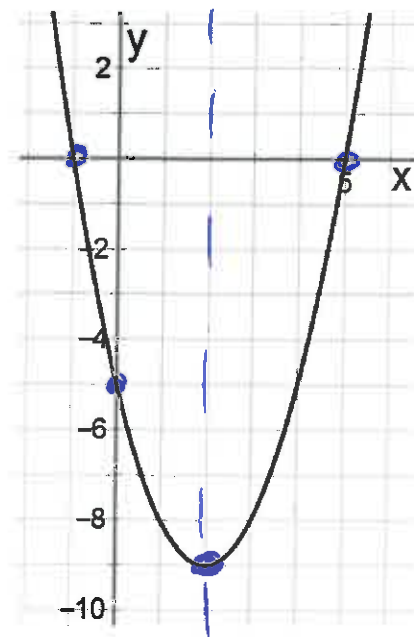
$$(-1, 0) \quad (5, 0)$$

c. What is the axis of symmetry?

$$x = 2$$

d. What is the vertex (turning point)?

$$(2, -9)$$



2. Answer each question by analyzing the coefficients of the quadratic function:

$$y = -3x^2 + 6x - 7$$

a. Is the graph opening up or down?

$a = -3$  down, leading coeff is negative.

b. What is the y-intercept?

$$c = -7 \quad (0, -7)$$

c. What is the axis of symmetry?

$$a = -3 \quad b = 6 \quad x = \frac{6}{(-2)(-3)} = \frac{6}{6} = 1$$

d. What is the vertex (turning point)?

$$\begin{aligned} y &= -3(1)^2 + 6(1) - 7 \\ &= -3 + 6 - 7 \\ &= -4 \end{aligned}$$

Turning point  
 $(1, -4)$

