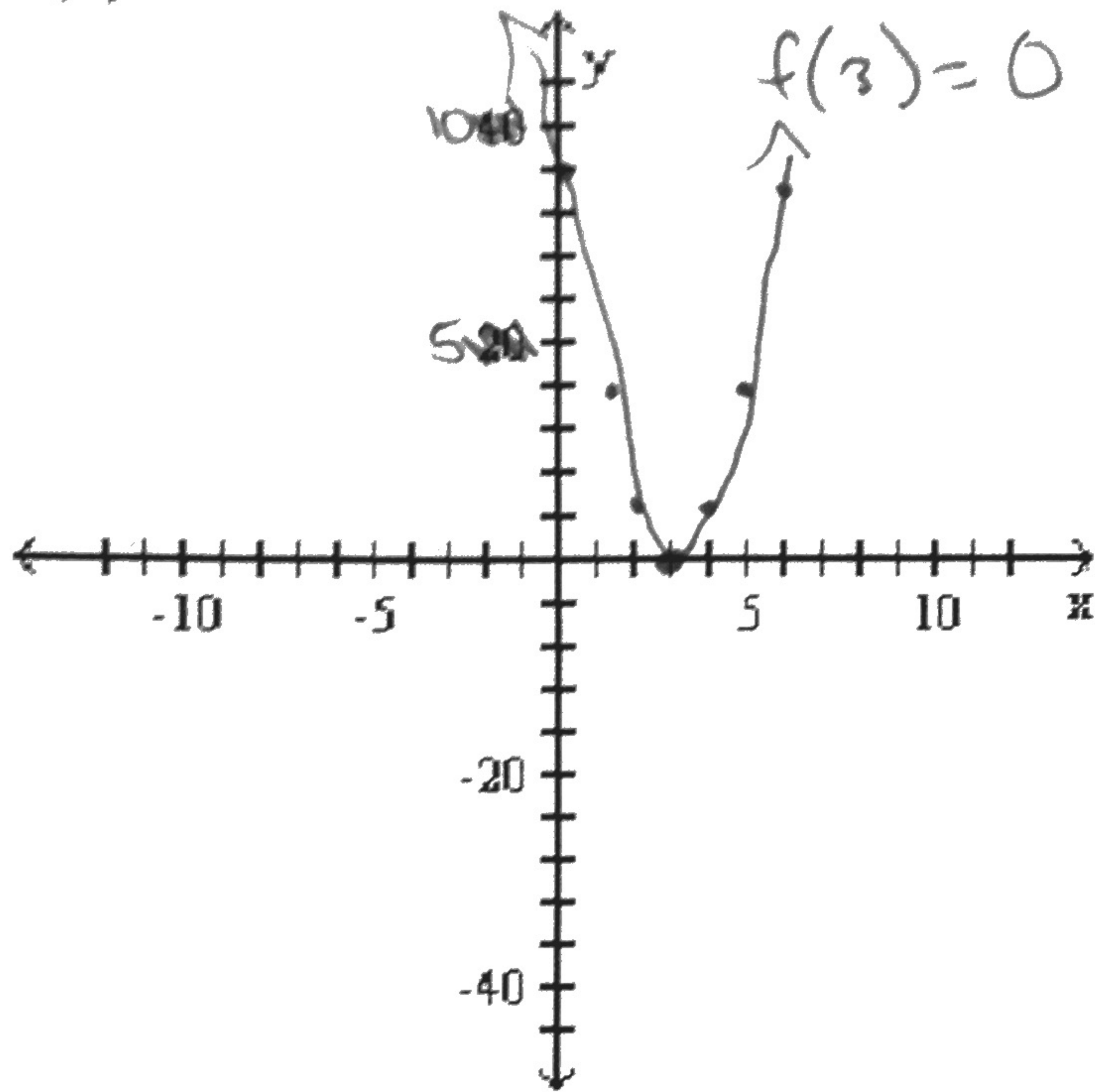


Graph the Function below.

$$f(x) = x^2 - 6x + 9$$

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



x	f(x)
4	$4^2 - 6(4) + 9 = 1$
5	$5^2 - 6(5) + 9 = 4$
6	$6^2 - 6(6) + 9 = 9$

a) Does the Graph open up or down?

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b) What is the axis of symmetry?

$$x = 3$$

c) What is the vertex?

$$(3, 0)$$

d) What are the intercepts of the function?

$$x = 3 \quad y = 9$$

e) Give the increasing and decreasing intervals.

$$\uparrow (-\infty, 3) \quad \downarrow (3, \infty)$$

f) Give the domain and range of f(x).

$$d: \mathbb{R} \quad r: [0, \infty) \quad y \geq 0$$