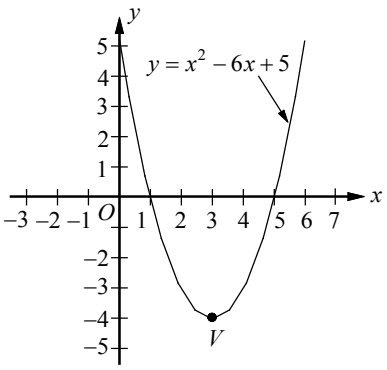
Exercises - Graphs of Quadratic Equations

Questions 1 and 2 refer to the following information.



The graph of quadratic function $y = x^2 - 6x + 5$ is shown above.

1

Which of the following is an equivalent form of the equation of the graph shown above, from which the coordinates of vertex V can be identified as constants in the equation?

A) $y = (x-1)(x-5)$

B) $y = (x+1)(x+5)$

C) $y = x(x-6)+5$

D) $y = (x-3)^2 - 4$

2

Which of the following is an equivalent form of the equation of the graph shown above, that displays the x- intercepts of the parabola as constants?

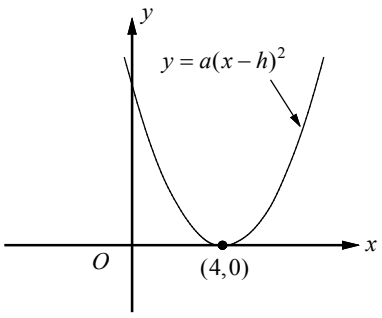
A) $y = (x-1)(x-5)$

B) $y = (x+1)(x+5)$

C) $y = x(x-6)+5$

D) $y = (x-3)^2 - 4$

3



In the xy- plane above, the parabola $y = a(x-h)^2$ has one x- intercept at $(4,0)$. If the y- intercept of the parabola is 9, what is the value of a?

4

In the xy- plane, if the parabola with equation $y = a(x+2)^2 - 15$ passes through $(1,3)$, what is the value of a?

5

The graph of the equation $y = a(x-1)(x+5)$ is a parabola with vertex (h,k). If the minimum value of y is -12, what is the value of a?