Algebra 2
Unit: Linear and Quadratic Functions
Section: Graphing Zeros and Max/Min Values

Example: Finding the Vertex of a Function

Problem

Find the vertex of the function f of x equals x squared minus 4x minus 5.

Solution

We know that the vertex is equal to the point (h, k) which equals negative b divided by 2a, f of negative b divided by 2 a.

h equals negative b divided by 2 a equals negative negative 4 divided by 2 times 1 equals 4 divided by 2 equals 2

K equals f of 2 equals 2 squared minus 4 times 2 minus 5 equals 4 minus 8 minus 5 equals negative 9.

The vertex is therefore (2, negative 9).

After graphing the function we see that the answer is correct.