2.

Solution

Quadratic function: is a function that can be written in the form:

$h(u) = au^2 + bu + c$ where a, b, and c are real numbers and $a \neq 0$

we have $h(u) = 3u^2 - 12u - 11$, note: $3u^2 - 12u - 11$ is in uh-plane

Here, we know that $a=3$, $b=-12$, $c=-11$

Since $a>0$,we know that the h-coordinate of the vertex is a minimum. However,to find the h-coordinate of our vertex we first need to find the u-coordinate of the vertex by using $u = -\frac{b}{2a} = -\frac{-12}{6} = 2$ Now that we have the u-coordinate, we can find the h-coordinate

of the vertex by finding $h(2) = 3(2)^2 - 12(2) - 11 = 12 - 24 - 11 = -23$ Minimum $= -23$