2.

Solution

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

$r(h) = ah^2 + bh + c$ where a, b, and c are real numbers and $a \neq 0$

we have $r(h) = 3h^2 - 7h + 15$, note: $3h^2 - 7h + 15$ is in hr-plane

Here, we know that $a=3$, $b=-7$, $c=15$

Since $a>0$,we know that the r-coordinate of the vertex is a minimum. However,to find the r-coordinate of our vertex we first need to find the h-coordinate of the vertex by using $h = -\frac{b}{2a} = -\frac{-7}{6} = \frac{7}{6}$ Now that we have the h-coordinate, we can find the r-coordinate of the vertex by finding $r\left(\frac{7}{6}\right) = 3\left(\frac{7}{6}\right)^2 - 7\left(\frac{7}{6}\right) + 15 = \frac{49}{12} - \frac{49}{6} + 15 = \frac{131}{12}$ Minimum: $\frac{131}{12}$