

5.

## Solution

To find the vertex, we look at the coefficients in the function  $h(k) = ak^2 + bk + c$   
in this equation,  $a = 2$  and  $b = 4$

The first coordinate of the vertex has the formula:  $\frac{-b}{2a}$  now, plugging into formula to get:

$$\frac{-b}{2a} = -\frac{4}{2(2)} = -1$$

The second coordinate of the vertex is  $h(-1) = 2(-1)^2 + 4(-1) - 7$   
 $= -9$

Therefore, the vertex of the graph of  $f$  is  $(-1, -9)$