

1.

Solution

To find the vertex, we look at the coefficients in the function $n(f) = af^2 + bf + c$
in this equation, $a = 1$ and $b = 2$

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

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

The second coordinate of the vertex is $n(-1) = 1(-1)^2 + 2(-1) - 5$
 $= -6$

Therefore, the vertex of the graph of f is $(-1, -6)$