3.

Solution

To find the vertex, we look at the coefficients in the function $n(q)=aq^2+bq+c$
in this equation, $a= 2$ and $b= 6$
The first coordinate of the vertex has the formula: $\frac{-b}{2a}$ now, plugging into formula to get:

$\frac{-b}{2a}=-\frac{6}{2(2)}=-\frac{3}{2}$

The second coordinate of the vertex is $n(-\frac{3}{2})\ =\ 2(-\frac{3}{2})^2+6(-\frac{3}{2})-6$

$=-\frac{21}{2}$

Therefore, the vertex of the graph of f is $(-\frac{3}{2},-\frac{21}{2})$