2.

Solution

To find the vertex, we look at the coefficients in the function $x(j)=aj^2+bj+c$
in this equation, $a=3$ and $b=4$
The first coordinate of the vertex has the formula: $\frac{-b}{2a}$ now, plugging into formula to get:
$\frac{-b}{2a}=-\frac{4}{2(3)}=-\frac{2}{3}$
The second coordinate of the vertex is $x(-\frac{2}{3}) = 3(-\frac{2}{3})^2+4(-\frac{2}{3})-6$
$=-\frac{22}{3}$
Therefore, the vertex of the graph of f is $(-\frac{2}{3},-\frac{22}{3})$