

2.

Solution

To find the vertex, we look at the coefficients in the function $w(f) = af^2 + bf + c$
in this equation, $a = 1$ and $b = 8$

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

$$\frac{-b}{2a} = -\frac{8}{2(1)} = -4$$

The second coordinate of the vertex is $w(-4) = 1(-4)^2 + 8(-4) - 6$
 $= -22$

Therefore, the vertex of the graph of f is $(-4, -22)$