6.

Solution

Quadratic function: is a function that can be written in the form:

$p(j)=aj^2+bj+c$ where a, b, and c are real numbers and $a\neq 0$

we have $p(j)=j^2+3j-2$, note: j^2+3j-2 is in jp-plane

Here, we know that $a=1$, $b=3$, $c=-2$

Since $a>0$,we know that the p-coordinate of the vertex is a minimum. However,to find the p-coordinate of our vertex we first need to find the j-coordinate of the vertex by using $j=-\frac{b}{2a}=-\frac{3}{2}=-\frac{3}{2}$ Now that we have the j-coordinate, we can find the p-coordinate of the vertex by finding $p(-\frac{3}{2})=1(-\frac{3}{2})^2+3(-\frac{3}{2})-2=\frac{9}{4}-\frac{9}{2}-2=-\frac{17}{4}$ Minimum$=-\frac{17}{4}$