5.

Solution

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

$x(m)=am^2+bm+c$ where a, b, and c are real numbers and $a\neq 0$

we have $x(m)=-m^2-14m+5$, note: $-m^2-14m+5$ is in mx-plane

Here, we know that $a=-1$, $b=-14$, $c=5$

Since $a<0$,we know that the x-coordinate of the vertex is a maximum.However,to find the x-coordinate of our vertex we first need to find the m-coordinate of the vertex by using $m=-\frac{b}{2a}=-\frac{-14}{-2}=-7$ Now that we have the m-coordinate, we can find the x-coordinate

of the vertex by finding $x(-7)=-1(-7)^2-14(-7)+5=-49+98+5=54$ Maximum=54