4.

Solution

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

$e(h)=ah^2+bh+c$ where a, b, and c are real numbers and $a\neq 0$

we have $e(h)=-3h^2-6h-8$, note: $-3h^2-6h-8$ is in he-plane

Here, we know that $a=-3$, $b=-6$, $c=-8$

Since $a<0$,we know that the e-coordinate of the vertex is a maximum.However,to find the e-coordinate of our vertex we first need to find the h-coordinate of the vertex by using $h=-\frac{b}{2a}=-1=-1$ Now that we have the h-coordinate, we can find the e-coordinate

of the vertex by finding $e(-1)=-3(-1)^2-6(-1)-8=-3+6-8=-5$ Maximum$=-5$