

1.

It so happens that this function can be simplified as:

$$\begin{aligned}h(a) &= \frac{-12+6a+6a^2}{4+2a} \\&= \frac{(2a+4)(3a-3)}{2a+4} \\&= 3a - 3\end{aligned}$$

To find the vertical asymptote :

There is no vertical asymptote

To find the horizontal asymptote :

First we must compare the degrees of the polynomials.

The numerator contains a 2<sup>nd</sup> degree polynomial while the denominator contains a 1<sup>st</sup> degree polynomial.

Since the polynomial in the numerator is a higher degree than the denominator, there is no horizontal asymptote.

To find the oblique asymptote :

we must divide the numerator by the denominator and so the oblique asymptote  $t=3a-3$

