

1.

It so happens that this function can be simplified as:

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

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 2nd degree polynomial while the denominator contains a 1st 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 $s=2n-4$

