

4.

It so happens that this function can be simplified as:

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

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 $s=2a-2$

