

5.

It so happens that this function can be simplified as:

$$\begin{aligned} e(p) &= \frac{-9-6p+8p^2}{3+4p} \\ &= \frac{(2p-3)(4p+3)}{4p+3} \\ &= 2p-3 \end{aligned}$$

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 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 $f=2p-3$

