

3.

It so happens that this function can be simplified as:

$$\begin{aligned}p(m) &= \frac{-20-m+12m^2}{5+4m} \\&= \frac{(3m-4)(4m+5)}{4m+5} \\&= 3m - 4\end{aligned}$$

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 $s=3m-4$

