

4.

It so happens that this function can be simplified as:

$$\begin{aligned}b(a) &= \frac{-3-a+2a^2}{1+a} \\&= \frac{(a+1)(2a-3)}{a+1} \\&= 2a - 3\end{aligned}$$

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 $f=2a-3$

