4.

It so happens that this function can be simplified as:

$$m(k) = \frac{-25+20k+5k^2}{5+k}$$

$$= \frac{(k+5)(5k-5)}{k+5}$$

$$= 5k - 5$$

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 2^{nd} degree polynomial while the denominator contains a 1^{st} 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 $u = 5k - 5$