2.

It so happens that this function can be simplified as:

$$m(j) = \frac{-8+j^3}{-8+2j+j^2}$$

$$= \frac{(j-2)\left(j^2+2j+4\right)}{(j-2)(j+4)}$$

$$= \frac{j^2+2j+4}{j+4}$$

To find the vertical asymptote :

$$j + 4 = 0$$

$$j = -4$$

There is a vertical asymptote at $j = -4$

To find the horizontal asymptote :

First we must compare the degrees of the polynomials.

The numerator contains a 3rd degree polynomial while the denominator contains a 2nd 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 $\frac{-8+j^3}{-8+2j+j^2} = \frac{j^2+2j+4}{j+4} = \frac{12}{j+4} + (j-2)$

There is an oblique asymptote at $u = j - 2$