3.

It so happens that this function can be simplified as:

$q(f) = \frac{-27+f^3}{-6-f+f^2}$

$= \frac{(f-3)\left(f^2+3f+9\right)}{(f-3)(f+2)}$

$= \frac{f^2+3f+9}{f+2}$

To find the vertical asymptote :

$f+2=0$

$f=-2$

There is a vertical asymptote at $f=-2$

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 $\frac{-27+f^3}{-6-f+f^2} = \frac{f^2+3f+9}{f+2} = \frac{7}{f+2} + (f+1)$

There is an oblique asymptote at $v=f+1$