It so happens that this function can be simplified as:

 $q(V) = \frac{-1+v^3}{-5+4v+v^2}$

$$= \frac{(v-1) (v^2+v+1)}{(v-1) (v+5)}$$

$$= \frac{v^2+v+1}{v+5}$$

To find the vertical asymptote : v + 5 = 0

V = -5There is a vertical asymptote at v=-5To 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.

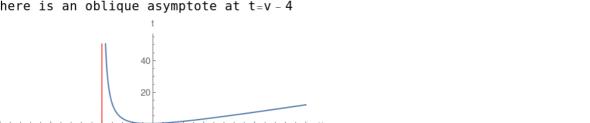
-20

-15

-10

To find the oblique asymptote : we must divide the numerator by the denominator $\frac{-1+v^3}{-5+4v+v^2} = \frac{v^2+v+1}{v+5} = \frac{21}{v+5} + (v-4)$

There is an oblique asymptote at t=v-4



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