It so happens that this function can be simplified as:

S (e) = $\frac{-27 + e^3}{-6 - e + e^2}$ = $\frac{(e-3) (e^2 + 3 e + 9)}{(e-3) (e+2)}$

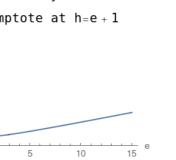
$$= \frac{(e-3)(e+2)}{(e-3)(e+2)}$$
$$= \frac{e^2 + 3e + 9}{e+2}$$

To find the vertical asymptote : e + 2 = 0

e = -2There is a vertical asymptote at e=-2To 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 $\frac{-27+e^3}{-6-e+e^2} = \frac{e^2+3e+9}{e+2} = \frac{7}{e+2} + (e+1)$ There is an oblique asymptote at h=e $_{\pm}$ 1 -15 -10