1.

To find the vertical asymptote :
We must set the denominator equal to 0 and solve:
$q^3 - 1 = 0$
$q = 1$
There is a vertical asymptote at $q = 1$
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 3^{rd} degree polynomial.
Since the polynomial in the numerator is a lower degree than the denominator,
the horizontal asymptote is located at $t = 0$.
To find the oblique asymptote :
Since the degrees of the numerator are less than the degrees of the denominator,
this rational does not have an oblique asymptote