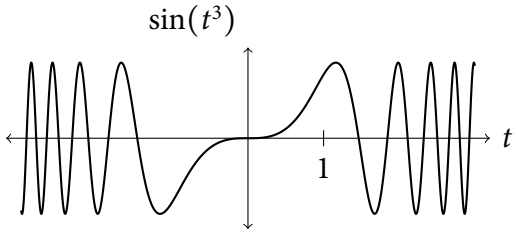
1. Consider the initial value problem

$$\frac{dy}{dt} = \sin(t^3), \quad y(-2) = 5.$$

a) Write down the solution of the initial value problem. Your solution will involve an area-under-the-curve function.

b) What is the value of $y(2)$? You might find the graph of $\sin(t^3)$ below helpful.



c) Is $y(0)$ positive or negative? Why?

d) Write down some Octave commands that could be used to compute $y(0)$.