

#1

t	V	m
5	680	-43.5
10	441	-39.2
15	245	DNE
20	102	-28.6
25	25	-22
30	0	-16.3333

Data seems sorta linear, definitely decreasing

P = (15, 245)

We find the slope from P to each of the points Q, in the table.

#2

x	f(x)	m
7	-3	???
6.9	-3.33333	3.333333
6.99	-3.0303	3.030303
6.999	-3.003	3.003003
6.9999	-3.0003	3.0003
7.0001	-2.9997	2.9997
7.001	-2.997	2.997003
7.01	-2.9703	2.970297
7.1	-2.72727	2.727273

P = (7, 3)

We find the slope from P to each of the points Q in the table.

$$f(x) = \frac{3}{6-x} \Rightarrow m_{PQ} = \frac{f(x) - 3}{x - 7}$$

#3

t	y = f(t)	m
2	4	DNE
2.5	-15	-38
2.1	0.84	-31.6
2.01	3.6984	-30.16
2.001	3.969984	-30.016
2.0001	3.997	-30.0016
2.00001	3.9997	-30.0002

$$y = f(t) = -16t^2 + 34t$$

$$\frac{-f(7)}{x-7} = \frac{\frac{3}{6-x} - (-3)}{x-7}$$