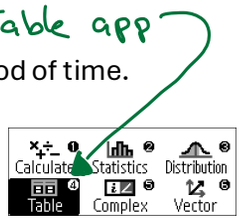
Question 7.

In an experiment, the weight of a decaying substance is measured over a period of time.

The weight (W) in grams after t days can be modelled by the relationship

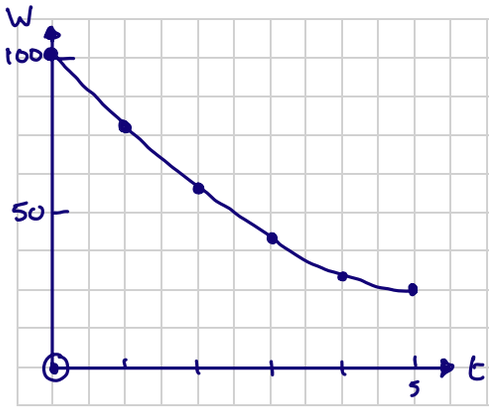
$$W = 100 \times 0.76^t$$

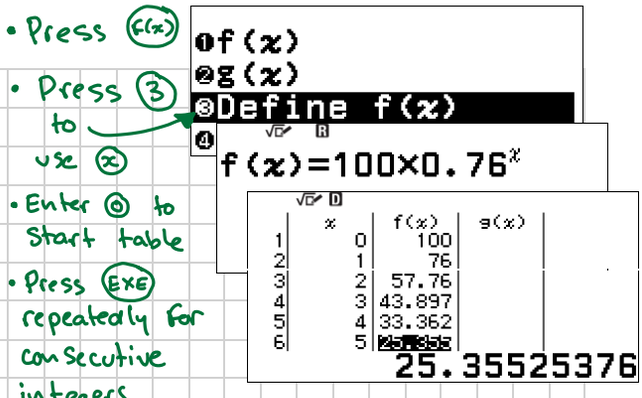


a) Complete the following table of values **2**

t	0	1	2	3	4	5
W	100	76	57.8	43.9	33.4	25.4

b) Hence draw the graph of W vs t for $0 \leq t \leq 5$





b) How many days until less than 10 g of the substance remains, according to this model? **2**

at $t = 8$, $W = 11.13$
$t = 9$, $W = 8.46$
∴ it takes 9 days.