

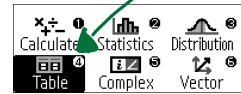
Question 7.

• Open the Table app

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

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

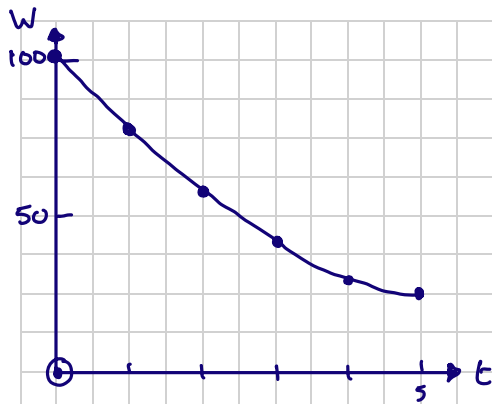


a) Complete the following table of values

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 $0 \leq t \leq 5$



- Press $f(x)$
- Press Table to use Table
- Enter Table to start table
- Press EXE repeatedly for consecutive integers

Calculator screen showing function definition and table generation:

```

f(x)
g(x)
Define f(x)
f(x)=100x0.76^x

```

x	f(x)	g(x)
1	0	100
2	1	76
3	2	57.76
4	3	43.897
5	4	33.362
6	5	25.35525376

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

at $t=8$, $w=11.13$
 $t=9$, $w=8.46$
 \therefore it takes 9 days.

- Continue the table until the solution is found

Calculator screen showing table continuation:

x	f(x)	g(x)
8	7	14.645
9	8	11.13 >10
10	9	8.456 <10
11		8.459064385