

## Exp.8: Half-life of a Draining Water Column

t (sec)	h (u)
0	60.8
10	57.5
20	54.2
30	50.4
40	47.7
50	45.0
60	41.9
70	39.0
80	36.4
90	33.8
100	31.3
110	28.9
120	26.7
130	24.4
140	22.3
160	18.4
180	14.7

### Points taken

( 14,58 ) , (104,29)

( 24,54 ) , (114,27)

( 34,50 ) , (124,25)

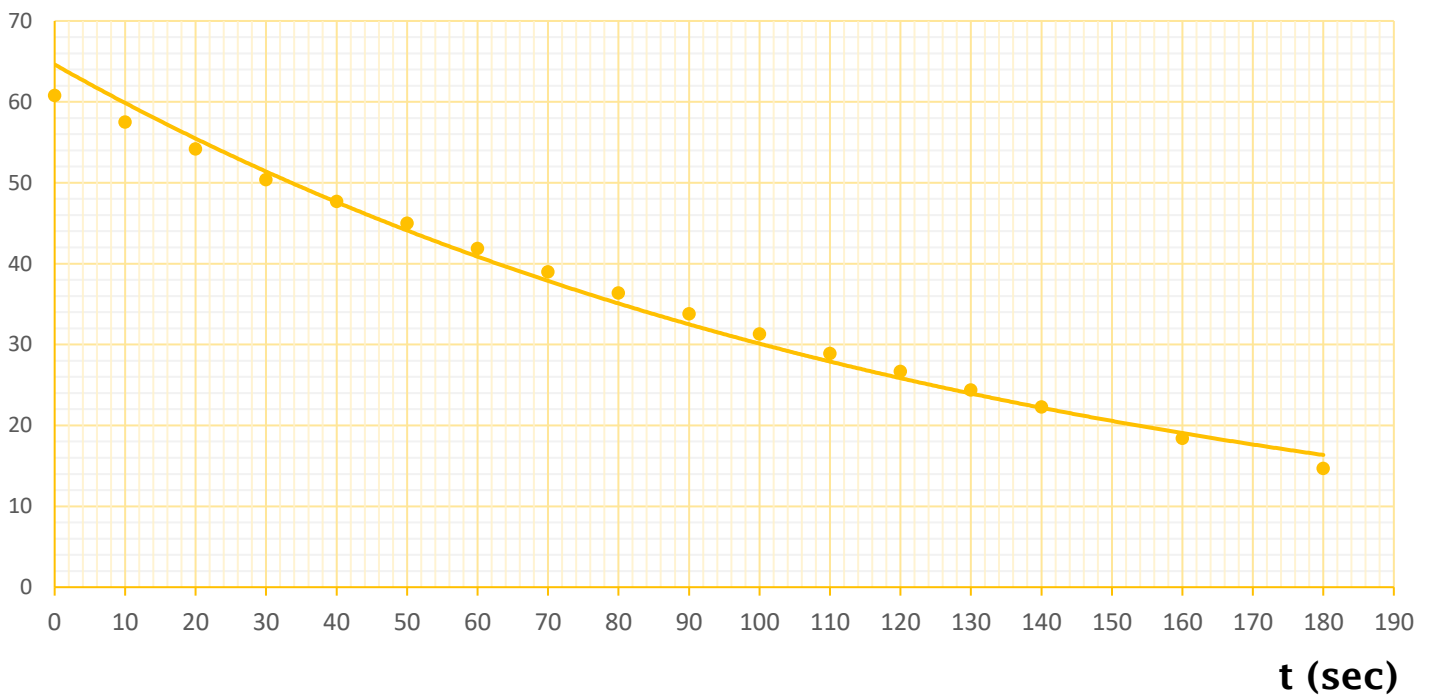
( 42,46 ) , (134,23)

( 56,42 ) , (148,21)

( 76,36 ) , (166,18)

**h (u)**

**h vs t**



t (sec)	ln h (u)
0	4.1076
10	4.0518
20	3.9927
30	3.9199
40	3.8649
50	3.8066
60	3.7352
70	3.6635
80	3.5945
90	3.5204
100	3.4436
110	3.3638
120	3.2846
130	3.1945
140	3.1046
160	2.9123
180	2.6878

Using the LINEST function excel to find the slop :

$$\rightarrow \text{Slop} = - 0.00764 \text{ sec}^{-1}$$

Or using points (150 , 3) , ( 46 , 3.8 ) :

$$\rightarrow \text{Slop} = \frac{\Delta y}{\Delta x} = \frac{3.8 - 3}{46 - 150} = - 0.00769 \text{ sec}^{-1}$$

