A helpful worksheet for Exercise 3.4.2.

> $with(plots):$

Here is the data for Exercise 3.4.2:

> $data := [[0, 1.0], [300, 0.78], [1200, 0.37], [3000, 0.08]]$

However, we will work with the log of the concentration, so

> $logdata := [seq([data[j][1], \log(data[j][2])], j = 1..4)]$

A plot of the log-transformed data:

> $plt1 := pointplot(logdata, symbol = solidcircle, symbolsize = 20)$

To fit a function u(k,t) = k*t to this data by adjusting "k", define

> $u(k, t) := k \cdot t$

and form sum of squares

> $SS := add\left((u(k, logdata[j][1]) - logdata[j][2])^2, j = 1..4\right)$

>

Then minimize the resulting expression SS as a function of k.