

ATOGWE VICTORIA ALOYE

BIOMEDICAL ENGINEERING

18/ENG08/003

$$1. -7000 = y_0$$
$$y = -7000 e^{-0.1t} + 7000$$

$$\frac{dT}{dt} = k(T-25)$$

$$\frac{dT}{(T-25)} = k dt$$

$$\ln(T-25) = kt + C$$

$$T-25 = e^{kt+C}$$

$$T = T_0 e^{kT}$$

$$T = T_0 e^{kT} + 25$$

$$At + = 0$$

$$10 = T_0 + 25 \quad T_0 = 10 - 25$$

$$T_0 = -15$$

$$T = -15e^{kT} + 25$$

$$20 = -15e^{k5} + 25$$

$$\underline{-5} = \underline{-15e^{kT}}$$

$$\frac{-5}{-15} = \frac{-15e^{kT}}{-15}$$

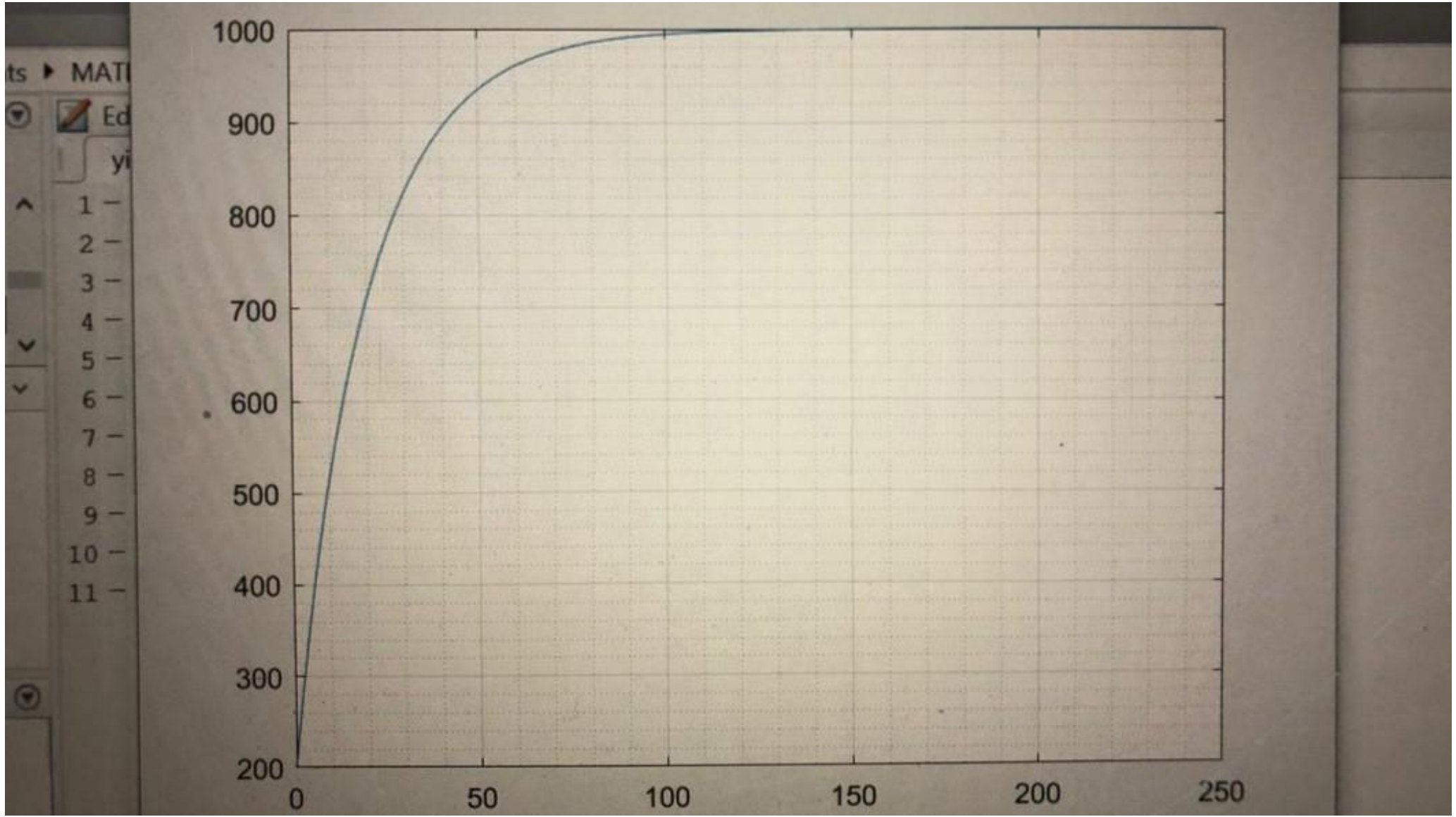
$$e.33 = -0.30^{k5}$$

$$-1.09 = k5$$

$$k = \frac{-1.09}{5}$$

$$k = -0.219$$

$$T = -15e^{-0.219t} + 25$$



```
- commandwindow
- clear
- clc
- close all
- format short g
- mdata=xlsread('onlinequizdata','fluiddata')
- x=mdata(1:2:250,1)
- y=mdata(1:2:250,2)
- plot(x,y)
- grid on
- grid minor
```

I

Command Window

```
86
88
90
92
94
96
98
100
fx 102
```

script

Ln 11 Col 11