

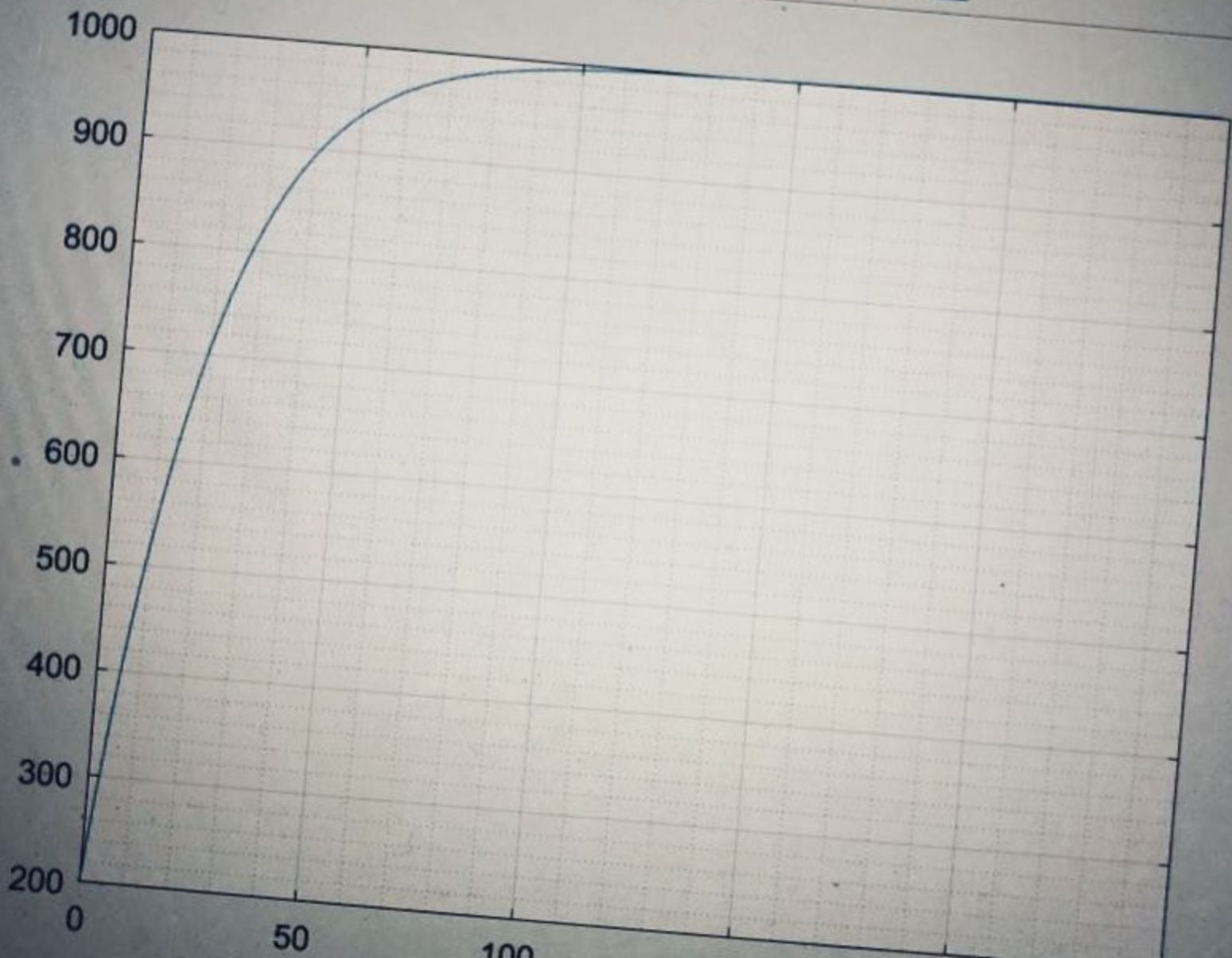
```
commandwindow
clear
clc
close all
format short g
mdata=xlsread('onlinequizdata','fluiddata')
x=mdata(1:2:250,1)
y=mdata(1:2:250,2)
plot(x,y)
grid on
grid minor
```

I

Command Window

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

fx



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128/En/903/047

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

$$\frac{dT}{T-25} = k dt + C$$

T-25

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

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

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

At $t = 0$ min

$$10 = T_0 + 25$$

$$10 - 25 = T_0$$

$$T_0 = -15$$

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

After 5 minutes $t = 5$

$$20 = -15 e^{5k} + 25$$

$$-5 = -15 e^{5k}$$

$$0.33 = e^{5k}$$

$$-1.092 = 5k$$

$$k = -0.2184$$

$$T = -15 e^{-0.2184t} + 25$$