

LAW-ADUE EMMANUEL

19/ENG05/069

MATHEMATICS QUIZ [ENG282] * * *

MECHATRONICS

QUESTION 1

$$T_1 \text{ of thermometer} = 10^\circ\text{C}$$

$$T_2 \text{ of thermometer} = 20^\circ\text{C}$$

$$\text{Time (t)} = 5 \text{ minutes} = 300 \text{ secs}$$

$$\Delta T = 20 - 10 = 10^\circ\text{C}$$

$$\text{Time when } T = 24.9^\circ\text{C} ; \Delta T = 24.9 - 10 = 14.9^\circ\text{C}$$

$$\rightarrow 10^\circ\text{C} \equiv 300 \text{ secs}$$

$$14.9^\circ\text{C} \equiv x$$

After cross multiplication, $10x = 4470$

$$x = \frac{4470}{10} = 447$$

$$x = 447 \text{ seconds}$$

\therefore The time taken to reach

$$24.9^\circ\text{C} = 447 \text{ seconds}$$

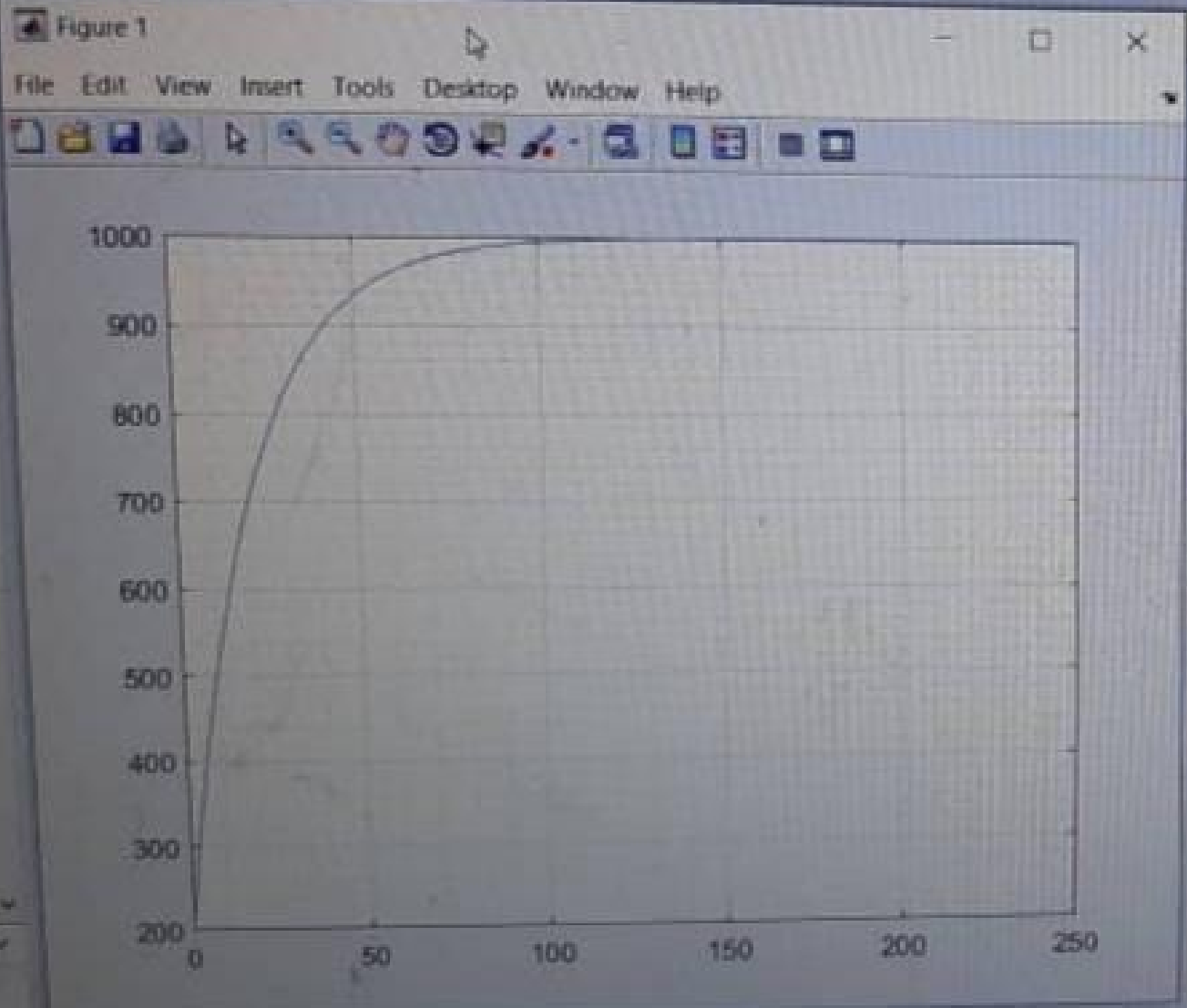
$$= 7 \text{ minutes } 27 \text{ seconds} \quad \equiv \equiv \equiv$$

```
1 - commandwindow
2 - clear
3 - clc
4 - close all
5 - data = xlsread('onlinequizdata.xlsx', 'fluiddata')
6 - x = data(1:2:250, 1)
7 - y = data(1:2:250, 2)
8 - plot(x, y)
9 - grid on
10 - grid minor
```

Workspace

Name -	Value
data	251x2 double
x	125x1 double
y	125x1 double

Command Window



```
555.9956  
559.9960  
559.9964  
559.9967
```