

18/ENG05/064

Unah, Benjamin Sunday

$$0^{\circ}\text{C} \Rightarrow 10^{\circ}\text{C} \Rightarrow 20^{\circ}\text{C} \Rightarrow 24.9^{\circ}\text{C}$$

$$0^{\circ}\text{C} \Rightarrow 10^{\circ}\text{C} \Rightarrow 20^{\circ}\text{C}$$

$$5\text{min} \Rightarrow 300\text{s} = 20^{\circ}\text{C}$$

$$\text{From } 10^{\circ}\text{C} \rightarrow 20^{\circ}\text{C}$$

→ 5 minutes

So for every 5 minutes it moves by 10°C

$$\therefore 10^{\circ}\text{C} = 300\text{s}$$

$$\therefore 1^{\circ}\text{C} = \frac{300}{10} = 30\text{s}$$

So from 24.9°C → 20°C (20°C → 24.9°C)

it is additional 4.9°C ∴

$$4.9 \times 30\text{s} = 147\text{s}$$

$$\therefore 147\text{s} = 2.45\text{ minutes}$$

∴ 5 minutes + 2.45 minutes

$$= 7.45\text{ minutes}$$

Screenshot of a MATLAB environment showing a plot and code.

Command Window:

| | |
|--------|--------|
| 0.1810 | 0.9541 |
| 0.1820 | 0.9999 |
| 0.1830 | 1.0370 |

Editor - C:\Users\BC\Documents\MATLAB\QUIZ.m

```

1  commandwindow
2  clc
3  clear
4  mdata=xlsread('onlinequizdata.xlsx','Fluiddata')
5  t=mdata(:,1)
6  y= 1000-4900*exp(-0.01*t)
7  plot(t,y)

```

Figure 1: A line graph showing a decaying exponential curve. The x-axis ranges from 0 to 250, and the y-axis ranges from -4000 to 1000. The curve starts at approximately (0, -4000) and approaches a horizontal asymptote near y = 1000.