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MECHANICAL ENGINEERING  
17/ENG 06/063

1)  $T_1$  of thermometer =  $10^\circ\text{C}$ ,  $T_2$  of thermometer =  $20^\circ\text{C}$   
Time taken  $t = 5\text{min} = 300\text{s}$ , Actual temp  $(T) = 24.9^\circ\text{C}$

$$\Delta T = T_2 - T_1 = 20 - 10$$

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

$\therefore$  It takes 5 min for the temperature to rise by  $10^\circ\text{C}$   
 $5^\circ\text{C} \Rightarrow \frac{1}{2}$  of 5 min

$\therefore 5^\circ\text{C} = 2.5\text{min}$  to move from  $20^\circ\text{C} \rightarrow 25^\circ\text{C}$

$$\therefore 25^\circ\text{C} \Rightarrow 2.5\text{min}$$

$$24.9^\circ\text{C} \Rightarrow x$$

$$x_{\text{min}} = \frac{2.5 \times 24.9}{25}$$

$$x = \frac{150 \times 24.9}{25}$$

$$x = 149.4\text{seconds}$$

$$x = 2\text{mins } 29\text{seconds}$$

2) Command Window.

clear

clc

close all

format shortg

mdata = xlsread('online quiz data', 'fluid data')

x = mdata(1:2:250, 1)

y = mdata(1:2:250, 2)

plot(x, y)

grid on

grid minor