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181ENG041055
ELECTRICAL/ELECTRONICS ENGINEERING
ENG 282

Question 1

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

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

$$\text{Time taken} = 5 \text{ mins} = 300 \text{ seconds}$$

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

$$F_{in} T = 24.9^\circ\text{C} \quad \Delta T_c = 24.9 - 10 = 14.9^\circ\text{C}$$

$$10^\circ\text{C to } 300 \text{ secs}$$

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

$$x = \frac{14.9 \times 300}{10} = 447 \text{ seconds}$$

$$10$$

$$x = 7 \text{ mins } 27 \text{ seconds}$$

Question 2

Initial temp = 10°C (IT)

Second temp = 20°C (ST)

Actual temp = 25°C (AT)

Boys Temp = 24.9°C (CT)

Time from IT to ST = 5 mins

= 300 secs

2 Time (2T) = ?

If from IT to ST = $20^{\circ}\text{C} - 10^{\circ}\text{C} = 10^{\circ}\text{C}$

and it takes 5 mins to cover 10°C

$5^{\circ}\text{C} = \frac{1}{2}$ of 5 mins

$5^{\circ}\text{C} = 2.5 \text{ min}$

$24.9^{\circ}\text{C} = ?$

$$= \frac{2.5 \times 24.9}{25} \quad (2.5 \text{ min} = 150 \text{ secs})$$

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

$$= 6 \times 24.9 = 149.4$$

$$149.4 \div 60$$

$$= 2.49 = 2 \text{ min } + 9 \text{ secs}$$

Normal Arial 10 100%

My Site

$t = 0.1..35$

$J(t) = -15 \exp(-0.21972 \cdot t) + 35$

T(t) =

24.138
24.308
24.444
24.554
24.642
24.713
24.769
24.815
24.851
24.881
24.904
24.923
24.938
24.95
24.96
...

Calculator

sin cos tan ln big
 pi 1 1/x | r^n | r^n
 x^y 1/x^y | x^y | x^y
 % 7 8 9 /
 + 1 2 3 +
 = 0 ... =

Graph

Activate Windows
Go to Settings to activate Windows.