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18/ENG105/063

Mechatronics

ENG 282

Quiz question 1

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

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

$$\text{Time taken} = 5 \text{ minutes} = 300 \text{ secs}$$

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

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

$$\Delta T_c = 24.9 - 10 = 14.9^\circ\text{C}$$

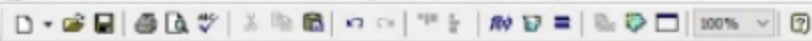
$$10^\circ\text{C} = 300 \text{ sec}$$

$$14.9^\circ\text{C} \times x \text{ sec}$$

$$x = \frac{300 \times 14.9}{10}$$

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

$$x = 7 \text{ min } 27 \text{ sec}$$



Normal Arial 10



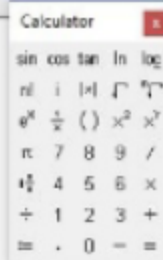
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$t > 0, 1..35$

$$I(t) := -15 \exp(-0.21972 t) + 25$$

$I(t) =$

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
...



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