

Uba Chukwuma Raphael

18/Eng 06/066

Mechanical Engineering

ENG 182 (Mathematics Assignment)

1. Case 1 if  $e^{kt} = 3$

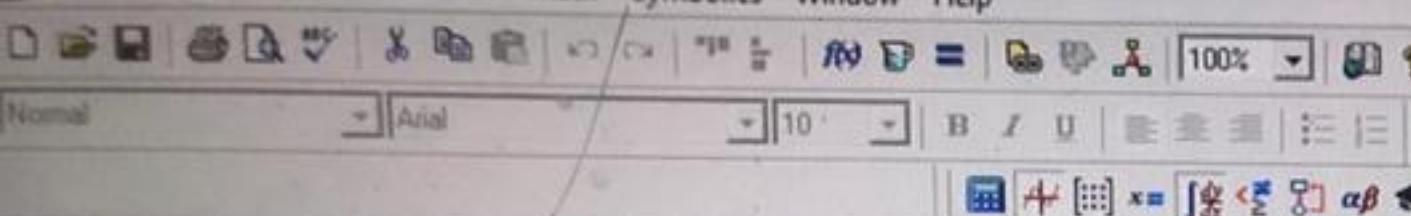
$$\text{at } t = 9$$

$$e^{9k} = 3$$

$$9k = \ln 3$$

$$k = 0.122$$

$$\text{Case 2} \rightarrow y = 50e^{0.122t}$$



$$y(t) = 50 \cdot \exp(0.122 \cdot t)$$

$$f(t) = 150 \cdot \exp(0.122 \cdot t)$$

$$t = 0.1..15$$

$$y(t) = f(t) =$$

50	150
56.488	169.463
63.817	191.452
72.098	216.293
81.453	244.358
92.022	276.065
103.962	311.885
117.451	352.354
132.691	398.073
149.908	449.725
169.359	508.078
191.334	574.003
216.161	648.483
244.209	732.626
275.896	827.587
311.694	935.083

