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18/EUG 021006

Computer Engineering

$$y = y_0 e^{kt}$$

$$y = 3y_0; \frac{y}{y_0} = 3$$

$$A = \frac{y}{y_0} = e^{kt} = 3 \text{ at } t = 9$$

$$B = \frac{y}{y_0} = e^{kt} = 9 \text{ at } t = 18$$

$$A = y_0 = 50 \text{ --- (i)}$$

$$B = y_0 = 150 \text{ --- (ii)}$$

$$y = 50e^{kt} \text{ --- (iii)}$$

$$y = 150e^{kt} \text{ --- (iv)}$$

$$3 = e^{kt}$$

$$\ln 3 = kt$$

$$\ln 3 = 9k$$

$$k = \frac{\ln 3}{9}$$

$$k = 0.122$$

$$9 = e^{kt}$$

$$\ln 9 = 18k$$

$$\frac{\ln 9}{18} = k$$

$$k = 0.122$$

$$y = 50e^{0.122t}$$

$$y = 150e^{0.122t}$$

$$r = 0.122$$

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

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

A(t) =

50
56.488
63.817
72.098
81.453
92.022
103.952
117.451
132.691
149.909
169.359
191.334
216.161
244.289
275.899
311.894

B(t) =

150
169.463
191.452
216.293
244.358
276.065
311.885
352.354
398.073
449.725
508.078
574.003
648.483
732.526
827.887
936.983