

$$q = e^{kt}$$

$$\ln q = 18k$$

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

$$k = 0.122$$

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

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

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

$$y = 3y_0 : y/y_0 = 3$$

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

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

$$\therefore A \quad y_0 = 50 \dots \textcircled{1}$$

$$\therefore B \quad y_0 = 150 \dots \textcircled{11}$$

$$\therefore y = 50 e^{kt}$$

$$y = 150 e^{kt}$$

$$\ln 3 = kt$$

$$\ln 3 = 9k$$

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

$$k = 0.122$$

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

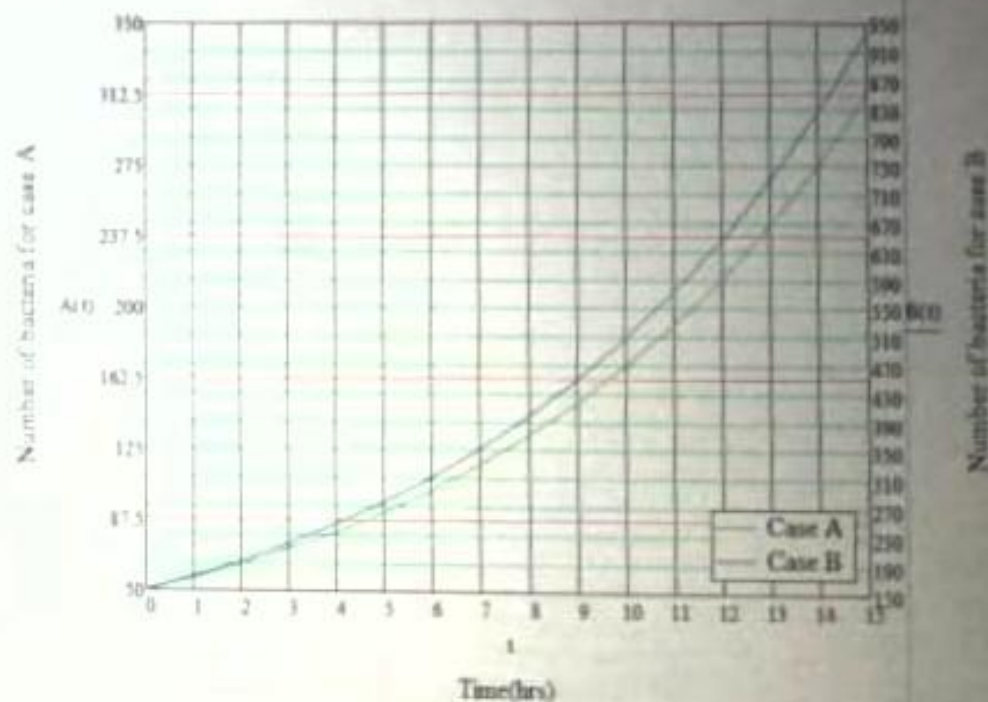
$$B(t) = 150 \exp(0.122 t)$$

A(t) =

50
56.488
63.817
72.098
81.453
92.022
103.962
117.451
132.891
149.908
169.359
191.334
216.161
244.209
275.896
311.694

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
732.626
827.687
935.083



Numbers of bacteria versus time