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$y = y_0 e^{kt}$

$y = 3y_0$; $y/y_0 = 3$

$A = y/y_0 = e^{4t} = 3^{at}$ $t = 9$, $B = y/y_0 = e^{4t} = 9^{at}, t = 18$

A $y_0 = 50$ ------(i)

B $y_0 = 150$ ------(ii)

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

$y = 150 e^{4t}$ -----(iv) , $3e^{Kt}$

$\ln 3 = Kt$, $\ln 3 = 9K$, $K = \frac{\ln 3}{9}$

$K = 0.122$.

$9 = e^{4t}$

$\ln 9 = 18K$.

$\ln 9/18 = K$

$K = 0.122$

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

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

$t := 0, 1 .. 15$

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

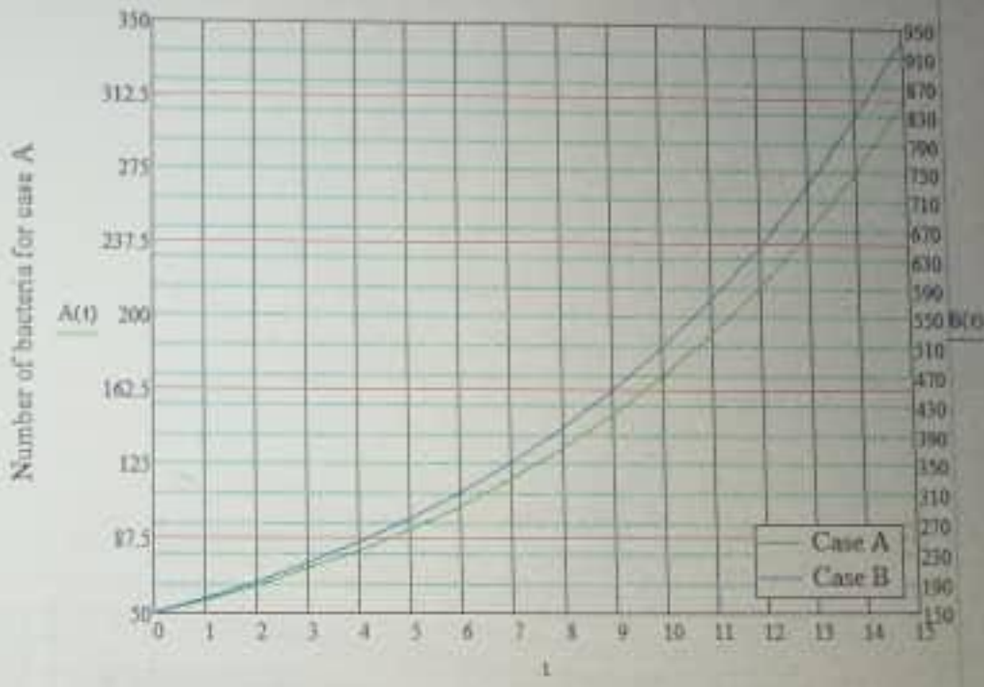
$A(t) =$

50
56.488
63.817
72.098
81.453
92.022
103.962
117.451
132.691
149.908
169.359
191.334
216.161
244.209
275.896
311.694

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

$B(t) =$

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

Press F1 for help