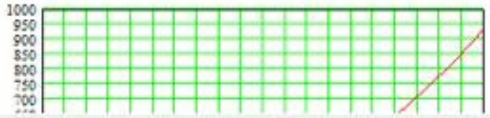
$t := 0, 1 .. 15$ $y(t) := 50 \cdot e^{0.122 \cdot (t)}$ $g(t) := 150 \cdot e^{0.122 \cdot (t)}$

t =	y(t) =	g(t) =
0	50	150
1	56.488	169.463
2	63.817	191.452
3	72.098	216.293
4	81.453	244.358
5	92.022	276.065
6	103.962	311.885
7	117.451	352.354
8	132.691	398.073
9	149.908	449.725
10	169.359	508.078
11	191.334	574.003
12	216.161	648.483
13	244.209	732.626
14	275.896	827.687
15	311.694	935.083



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14/Eng06/029
Mechanical Engineering

$y = y_0 e^{nt}$

$y = 3y_0 \quad \therefore \quad y/y_0 = 3$

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

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

A $y_0 = 50$ — ①

B $y_0 = 150$ — ②

$y = 50e^{nt}$ —③

$y = 150e^{nt}$ —④

$3 = e^{nt}$

$\ln 3 = nt$

$\ln 3 = 9n$

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

$n = 0.122$

$9 = e^{nt}$

$\ln 9 = 18n$

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

$n = 0.122$

$y = 50e^{0.122t}$

$y = 150e^{0.122t}$

$t := 0, 1 .. 15$

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

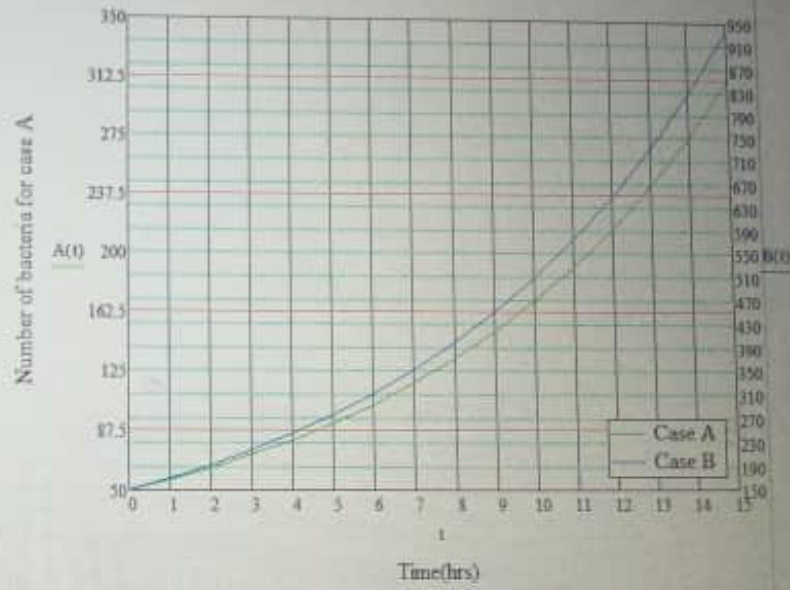
$A(t) =$

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.