

$$t = 0.1, 13$$

$$A(t) = 30 \exp(0.122 t)$$

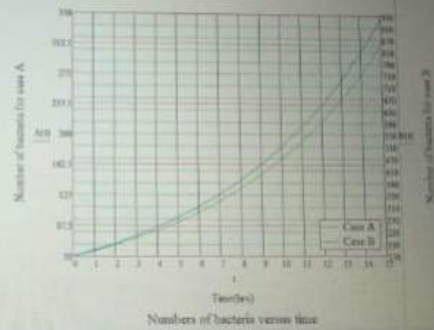
A(t) =

30
36.488
43.817
52.088
61.433
72.022
83.967
97.451
112.691
129.908
149.353
171.336
206.181
244.205
287.096
335.694

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

B(t) =

150
187.461
221.452
264.358
318.063
384.885
468.254
573.872
707.775
877.078
1090.601
1368.481
1732.626
2212.687
2853.083





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

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

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

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

\therefore A $y_0 = 50 \dots (i)$

B $y_0 = 150 \dots (ii)$

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

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

A $\therefore 3 = e^{kt}$

$\ln 3 = kt$

$\ln 3 = 9k$

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

$k = 0.1220$

$q = e^{kt}$

$\ln q = 18k$

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

$k = 0.1220$

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

$\therefore y = 150 e^{0.122t} \dots B$



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