$t := 0, 1 .. 15$

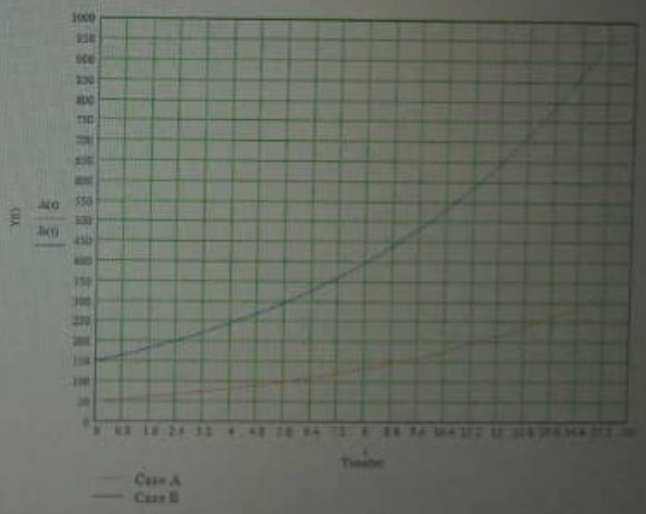
$A(t) := 50 \cdot \exp(0.122 \cdot t)$ $B(t) := 150 \cdot \exp(0.122 \cdot t)$

$A(t) =$

| |
|---|
| 50 |
| 56.488 |
| 63.817 |
| 72.098 |
| 81.453 |
| 92.022 |
| 103.962 |
| 117.451 |
| 132.691 |
| 149.909 |
| 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 |
| 311.895 |
| 352.354 |
| 398.073 |
| 449.725 |
| 508.078 |
| 574.003 |
| 648.483 |
| 732.626 |
| 827.687 |
| 935.083 |



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DATE: APRIL, 2020.
ENG 282.

1) $y = y_0 e^{kt}$.

$y = 3y_0$

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

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

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

A $y_0 = 50$ —— (I)

B $y_0 = 150$ —— (II)

$\therefore$ $y = 50e^{kt}$ —— (III)

$y = 150e^{kt}$ —— (IV)

A: $3 = e^{kt}$.

$\ln 3 = kt$. $(t = 9)$

$\ln 3 = 9k$

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

$k = \frac{1.0986}{9}$

$k = 0.122$.

B. $9 = e^{kt}$

$$\ln 9 = 18k \quad (t = 18)$$

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

$$k = \frac{2.197}{18}$$

$$k = 0.122$$

$\therefore$ $y = 50e^{0.122t}$ ——— A

$y = 150e^{0.122t}$ ——— B.