

t = 0, 1, 15

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

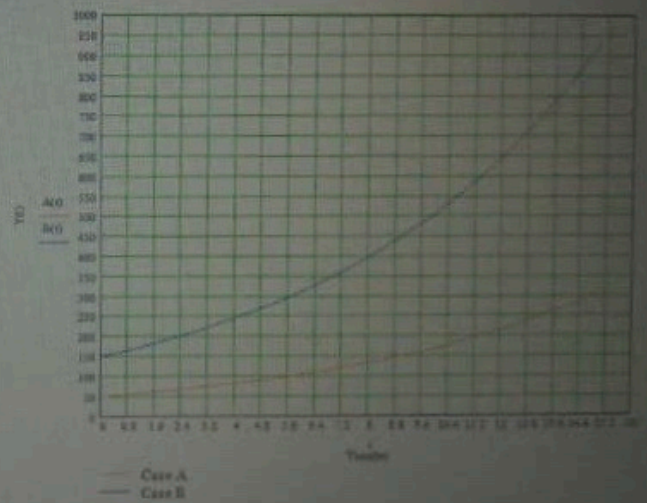
$$B(t) = 150 \cdot \exp(0.122 \cdot t)$$

A(t) =

| |
|---------|
| 50 |
| 56.488 |
| 63.817 |
| 72.088 |
| 81.453 |
| 92.022 |
| 103.962 |
| 117.451 |
| 132.681 |
| 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 |
| 278.065 |
| 311.885 |
| 352.354 |
| 398.073 |
| 449.725 |
| 508.078 |
| 574.003 |
| 648.483 |
| 732.626 |
| 827.687 |
| 935.983 |



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BIOMEDICAL ENGINEERING

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

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

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

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

$$\therefore Ay_0 = 50 \quad \text{--- (i)}$$

$$By_0 = 150 \quad \text{--- (ii)}$$

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

$$y = 150 e^{kt} \quad \text{--- (iv)}$$

$$A = 32 e^{kt}$$

$$\ln 3 = kt$$

$$\ln 9 = 2kt$$

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

$$k = 0.122$$

$$9 = e$$

$$\ln 9 = 18k$$

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

$$k = 0.122$$

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

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