

Valentina Ugbechie  
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 BIOMEDICAL ENGINEERING

$y = y_0 e^{kt}$   
 $y = 3y_0; \frac{y}{y_0} = 3$   
 $A \Rightarrow \frac{y}{y_0} = e^{kt} = 3; \text{At } t = 9$   
 $B \Rightarrow \frac{y}{y_0} = e^{kt} = 9; \text{At } t = 18$   
 $A \therefore y_0 = 50 \text{ --- (1)}$   
 $B \therefore y_0 = 150 \text{ --- (2)}$   
 $\therefore y = 50 e^{kt} \text{ --- (3)}$   
 $y = 150 e^{kt} \text{ --- (4)}$   
 $\therefore 3 = e^{kt}$   
 $\ln 3 = kt$   
 $\ln 3 = 9k$   
 $k = \frac{\ln 3}{9}$   
 $k = 0.122$   
 $9 = e^{kt}$   
 $\ln 9 = 18k$   
 $\ln 9 = k$   
 $18$   
 $k = 0.122$   
 $\therefore y = 50 e^{0.122t} \text{ --- A}$   
 $y = 150 e^{0.122t} \text{ --- B}$

