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$y = y_0 e^{kt}$   
 $y = 3$   
 $A \quad y = e^{kt} = 3 \text{ at } t = 9$   
 $B \quad y = e^{kt} = 9 \text{ at } t = 18$

$y_0 = 50 \dots i$   
 $y_0 = 150 \dots ii$   
 $y = 50 e^{kt} \dots iii$   
 $y = 150 e^{kt} \dots iv$

$A \quad \therefore 3 = e^{kt}$   
 $\ln 3 = kt$   
 $\ln 3 = 9k$   
 $k = \frac{\ln 3}{9} \quad k = 0.122$

$9 = e^{kt}$   
 $\ln 9 = 18k$   
 $\frac{\ln 9}{18} = k$   
 $k = 0.122$

$\therefore y = 50 e^{0.122t} \dots A$   
 $y = 150 e^{0.122t} \dots B$

$t := 0, 1..15$

$$y(t) := 50 \cdot e^{0.122 \cdot t}$$

$$n(t) := 150 \cdot e^{0.122 \cdot t}$$

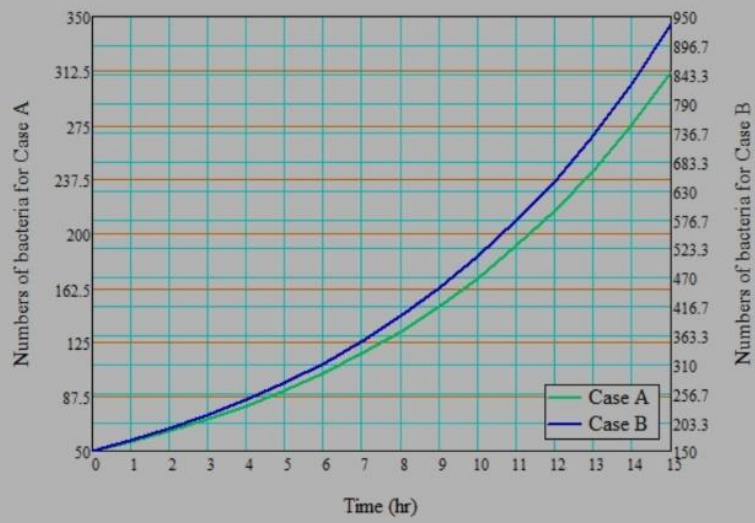


Figure 1: Numbers of bacteria versus time