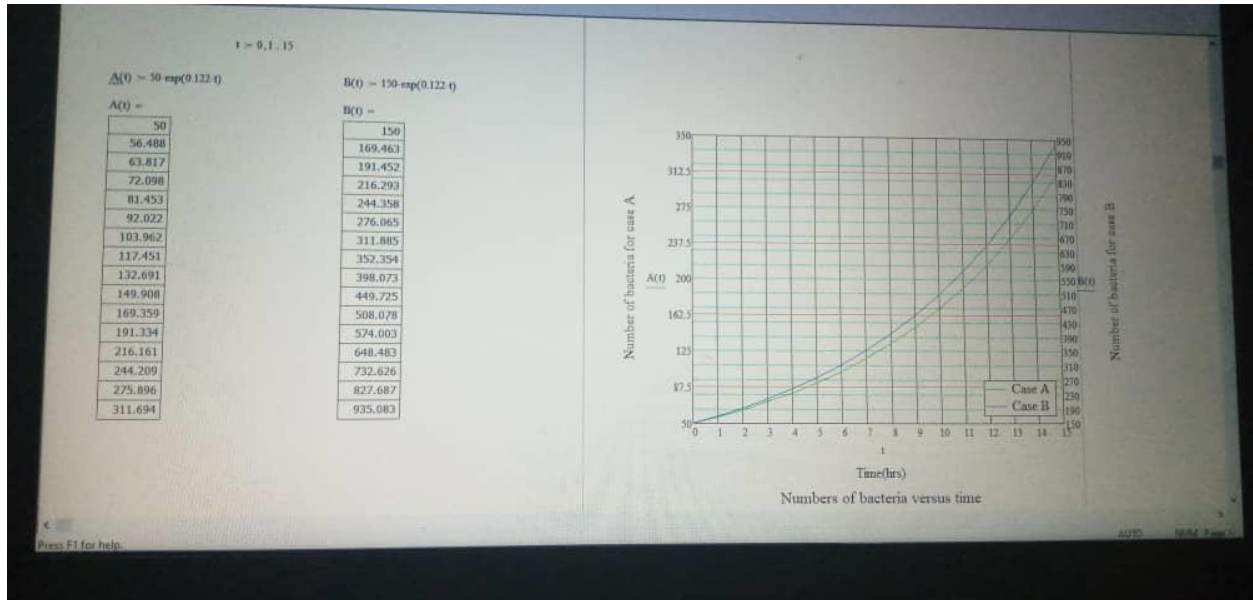


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$$\therefore y = y_0 e^{kt}$$

$$y = 3y_0$$

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

$$y = 3 \times y_0$$

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

$$y_0 = 50 \text{ --- (1)} \quad ; \quad y = 50 e^{kt}$$

$$y_0 = 150 \text{ --- (2)} \quad y = 150 e^{kt}$$

$e^{kt}$  = exponential (constant  $k$  &  $t$ )

$$e^{kt} = 3$$

$$\ln 3 = kt$$

$$\ln 3 = 9k$$

$$k = \frac{\ln 3}{9} = 0.1221$$

$$e^{kt} = 9$$

$$\ln 9 = 18k$$

$$k = \frac{\ln 9}{18} = 0.1221$$

$$\therefore y = 50 e^{0.1221 t}$$

$$y = 150 e^{0.1221 t}$$