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18/ENG06/045

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

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

t = 0, 1, ..., 15

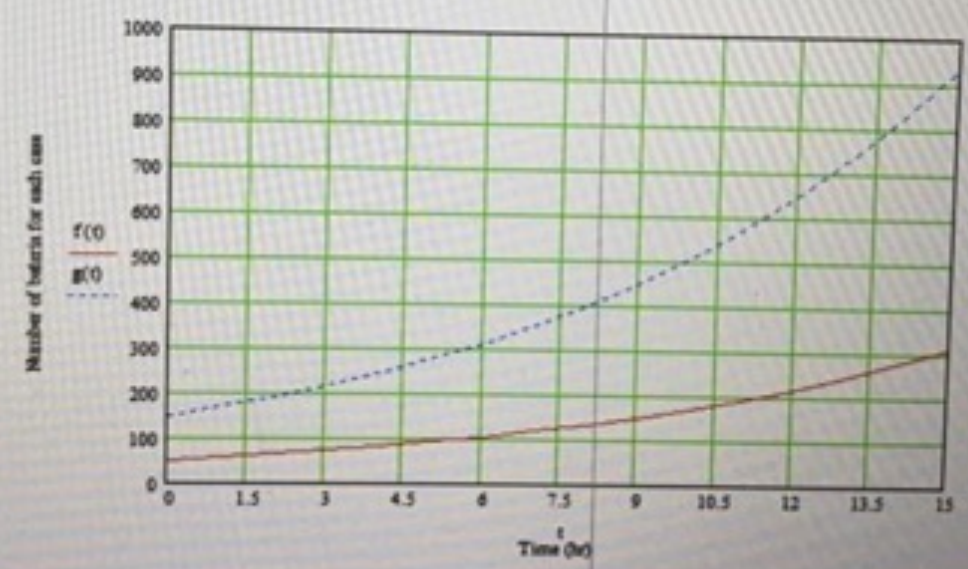
f(t) =

50
56.488
63.817
72.098
81.453
92.022
103.962
117.451
132.691
149.908
169.359
191.334
216.161
244.209
275.896
311.694

g(t) =

150
169.463
191.452
216.293
244.358
276.065
311.885
352.354
398.073
449.725
508.078
574.003
648.483
732.626
827.687
935.083

f(t) = number of bacteria for case A  
g(t) = number of bacteria for case B



Math  
+  
x  
y

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18/EIUG064045

Mechanical Engineering

EIUG282 (Mathematics Assignment)

1) Case 1:  $e^{kt} = 3$

at  $t = 9$

$$e^{9k} = 3$$

$$9k = \ln 3$$

$$k = 0.122$$

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

Case 2  $\Rightarrow$   ~~$e^{kt}$~~

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