Mathcad Professional - [Untitled:1]

File Edit View Insert Format Math Symbolics Window Help

Normal Arial 10

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

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

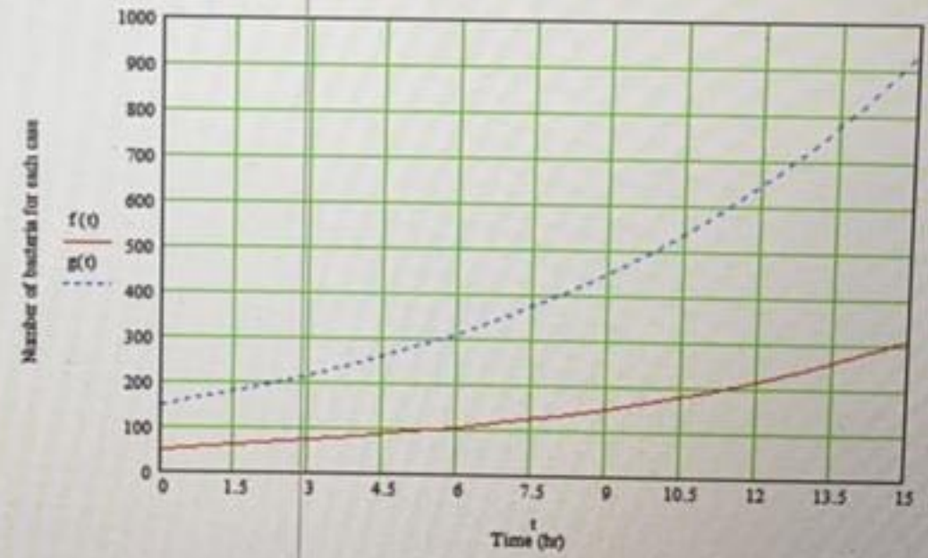
$t := 0, 1 .. 15$

$f(t) =$

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



where : g(t) = Number of bacteria for case B
f(t)= Number of bacteria for Case A

Matrix

Math

Evalua...

Press F1 for help.

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7:05 PM

Case 2 $y = 450e^{kt}$ ---- 2

$y = 3y_0 e^{kt}$

$\frac{y}{y_0} = 3e^{kt}$

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

$y = 3y_0$

$\frac{y}{y_0} = 3$

Case 1 → $e^{kt} = 3$ ----

at $t = 9$

$e^{9k} = 3$

$9k = \ln 3$

$k = 0.122$

$y = 50e^{0.122t}$

Case 2 → $e^{kt} = 3$ at $t = 9$

$y = 150e^{0.122t}$