

CASE 1

$$k = \frac{\ln(3)}{9}$$

$$Y(t) = 50e^{k \cdot t}$$

CASE 2

$$B(t) = 150e^{k \cdot t}$$

t := 0, 1, 15

t =	Y(t) =	B(t) =
0	50	150
1	56.492	169.475
2	63.826	191.478
3	72.112	216.337
4	81.475	244.425
5	92.053	276.159

Press F1 for help.

Search the web and Windows

$$\frac{dy}{dt} = ky$$

$$\int \frac{1}{y} dy = \int k dt$$

$$\ln y = kt$$

$$y = e^{kt}$$

It is an initial value problem

Case A

$$3 \times 50 = 50 e^{k \times 9}$$

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

Case B

$$= 3 \times 150 = 150 e^{k \times 9}$$

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