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Civil Engineering

استنتاج

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

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

$$A. \frac{y}{y_0} = e^{kt} = 3 \text{ at } t=9$$

$$B. \frac{y}{y_0} = e^{kt} = 9 \text{ at } t=18$$

$$\therefore A. y_0 = 50 \dots (i)$$

$$B. y_0 = 150 \dots (ii)$$

$$\therefore y = 50 \cdot e^{kt}$$

$$y = 150 \cdot e^{kt}$$

$$\therefore 3 = e^{kt}$$

$$\ln 3 = kt$$

$$\ln 3 = 9k$$

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

$$k = 0.122$$

$$9 = e^{kt}$$

$$\ln 9 = 18k$$

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

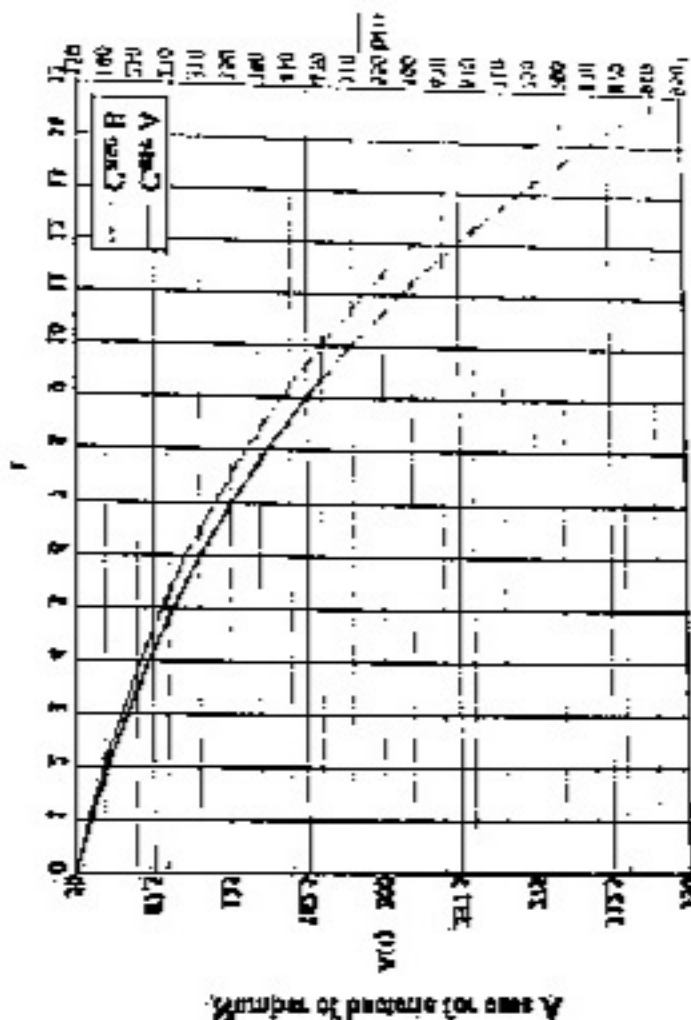
$$k = 0.122$$

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

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

Number of packets received

Time (sec)



A case of arrival to network

832'080
833'080
834'080
835'080
836'080
837'080
838'080
839'080
840'080
841'080
842'080
843'080
844'080
845'080
846'080
847'080
848'080
849'080
850'080

- 0.08

0.0833333333333333

311'080
312'080
313'080
314'080
315'080
316'080
317'080
318'080
319'080
320'080
321'080
322'080
323'080
324'080
325'080
326'080
327'080
328'080
329'080
330'080

0.08

0.0833333333333333