

$$\text{an. 3 / } \phi \cup \lambda \lambda_0$$

$$P(t) = 200 \cdot e^{ct}$$

$$b) P(1) = 328 \quad (=)$$

$$200 \cdot e^{c \cdot 1} = 328 \quad (=)$$

$$e^c = \frac{328}{200} \quad (=)$$

$$\ln e^c = \ln \frac{328}{200} \quad (=)$$

$$c = \ln \frac{328}{200} = \ln \frac{3,28}{2} =$$

$$= \ln 1,64 = 0,5$$

$$\text{At } a \quad c = 0,5$$

$$2) P(0) = 200 \cdot e^{c \cdot 0} = 200 \cdot e^0 = 200 \cdot 1 = 200$$

$$(8) 10 \cdot 200 < P(t) < 100 \cdot 200 \quad (=)$$

$$10 \cdot 200 < 200 \cdot e^{\frac{1}{2}t} < 100 \cdot 200 \quad (=)$$

$$10 < e^{\frac{1}{2}t} < 100 \quad \ln \times \frac{1}{2} \quad (=)$$

$$\ln 10 < \ln e^{\frac{1}{2}t} < \ln 100 \quad (=)$$

$$2,3 < \frac{1}{2}t \cdot \ln e < \ln 10^2 \quad (=)$$

$$2,3 < \frac{1}{2}t < 2 \ln 10$$

$$2,3 < \frac{1}{2}t < 4,6$$

$$4,6 < t < 9,2$$

$$\ln 1,64 = 0,5$$

$$\ln 10 = 2,3$$

ex. 4 $m - M = 5 \log \left(\frac{d}{10} \right)$ (1)

ce LO PS : $M = m$

(2) $m < M \Rightarrow m - M < 0$

(1) $\Rightarrow 5 \log \left(\frac{d}{10} \right) < 0 \Rightarrow$

$\log \left(\frac{d}{10} \right) < \log 1$ $\log x \uparrow$
($= 1$)

$0 < \frac{d}{10} < 1 \Rightarrow$

$0 < d < 10 \text{ parsec}$

(3) $m = 1,157$, $d = 100$

$1,157 - M = 5 \log 2 \Rightarrow$

$1,157 - 5 \log 2 = M$

(4) ~~$\frac{m - M}{5} = 5 \log \left(\frac{d}{10} \right) \Rightarrow$~~

$\log \left(\frac{d}{10} \right) = \frac{m - M}{5} \cdot 1 \Rightarrow \log \left(\frac{d}{10} \right) = \frac{m - M}{5} \cdot \log 10$

$\log \left(\frac{d}{10} \right) = \log 10^{\frac{m - M}{5}} \Rightarrow \frac{d}{10} = 10^{\frac{m - M}{5}} \Rightarrow$

$d = 10 \cdot 10^{\frac{m - M}{5}}$

