۱

$\log_{\frac{1}{c}}^{-b} = 2$ $\quad c^{-1} = -b$ $\quad -cb = 1$ $\quad 2^{\frac{3}{2}} + \frac{3}{2} - 1 = 0$ $\quad c = \frac{1}{2}$

$\log_{c}^{-b} = -1$ $\quad \frac{1}{c} = -b$ $\quad cb = -1$ $\quad 2^{\frac{3}{2}} + 3 - 4 = 0$ $\quad b = -2$

$\log_{c}^{-1.5a-b} = 0$ $\quad \frac{3}{2} = \frac{3}{2}a$ $\quad (a+c)b = (1+\frac{1}{2})-2 = \boxed{-3}$

$c = -1.5a - b$ $\quad a = 1$

$\frac{1}{2} = \frac{3}{2}a + 2$

۲

$1 + c \times 3^{a+b} = 0$ $\quad c \times 3^{a+b} = -1$

$1 + c \times 3^{a} = \frac{2}{3}$ $\quad c \times 3^{a} = \frac{-1}{3}$ $\div$ $\quad 3^{b} = 3$ $\quad 3^{-b} = 3^{-1} = \frac{1}{3}$

$1 + c \times 3^{a-b} = ?$ $\quad b = 1$

$\frac{-1}{3} \times \frac{1}{3} = \frac{-1}{9}$

$1 + (\frac{-1}{9}) = \boxed{\frac{8}{9}}$

۳

$c + \log_{3}^{b} = 2$ $\quad \log_{3}^{b} - \log_{3}^{2.4a+b} = 2$ $\quad 3a = -2b$

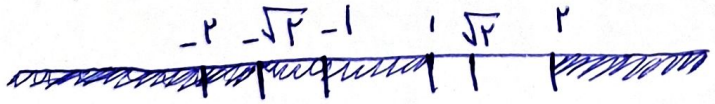
$c + \log_{3}^{2.4a+b} = 0$ $\quad \frac{b}{2.4a+b} = 9$ $\quad a = \frac{-2}{3}b$

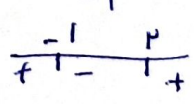
$c = -\log_{3}^{2.4a+b}$ $\quad 6a + 2b = b$ $\quad \frac{a}{b} = \frac{\frac{-2}{3}b}{b} = \frac{-2}{3}$

$6a = -4b$

۴

$|x^2 - 2| - x > 0$ $\quad \begin{matrix} x > \sqrt{2} \\ x < -\sqrt{2} \end{matrix} \Big\} \; x^2 - x - 2 > 0$ $\quad (x-2)(x+1) > 0$





$-\sqrt{2} < x < \sqrt{2} \rightarrow x^2 + x - 2 < 0$

$(x+2)(x-1)$

$D_f = \mathbb{R} - [1, 2]$

۵

$2 + 2^{b-a} = 4$ $\quad 2 + 2^{b+a} = 10$

$2^{b-a} = 2$ $\quad 2^{b+a} = 8$

$b - a = 1$ $\quad b + a = 3$

$b + a = 3$

$2b = 4$ $\quad 3 - 1 = 2$

$b = 2$ $\quad a = 1$

$-2 + \left(\frac{1}{2}\right)^{A+B} = 0$

$\left(\frac{1}{2}\right)^{A+B} = 2$

$2^{-A-B} = 2$

$-A - B = 1$

$-2A - B = 2$

$-A = 1 \quad A = -1 \quad B = 0$

$-2 + \left(\frac{1}{2}\right)^{2A+B} = 2$

$\left(\frac{1}{2}\right)^{2A+B} = 4$

$2^{-2A-B} = 4$

$-2A - B = 2$

$-2 + \left(\frac{1}{2}\right)^{3A+B}$

$-2 + \left(\frac{1}{2}\right)^{-3} = -2 + 8 = 6$ ٩

$P = P_0 \times e^{kt}$

$\frac{1}{6} P_0 = P_0 \times e^{\frac{t}{9}}$

$\frac{1}{6} = e^{\frac{t}{9}}$ ٧

$P = P_0 \times e^{kt}$

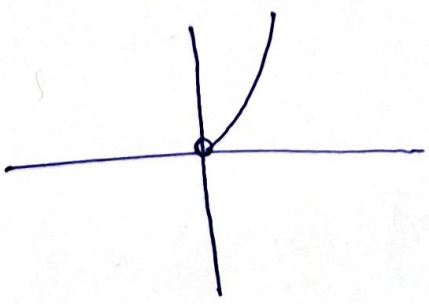
$\frac{1}{4} P_0 = P_0 \times e^{\frac{t}{8}}$

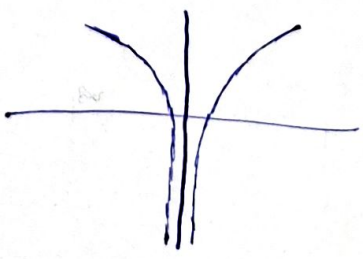
$\frac{1}{4} = e^{\frac{t}{8}}$ ٨

٩

الف : $x^{\log_3 9} = x^2$

ب :





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