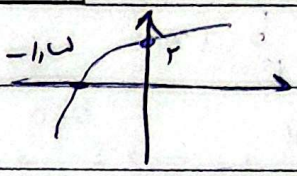
مسیر کاظمی یازدهم پسر B

$y = 1 - \log_c^{(am-b)}$ $\quad b+c = -\frac{3}{2}$

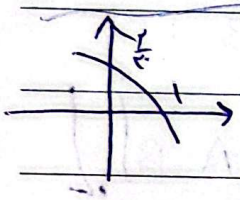


$0 = 1 - \log_c^{-1.5a-b}$ $\quad \log_c^{-1.5a-b} = 1 \Rightarrow c = -1.5a-b \rightarrow c+b = -1.5$

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

$\frac{1}{2}+b = -\frac{3}{2} \rightarrow b = -2$ $\quad (a+c)^b \rightarrow (1+\frac{1}{2})^{-2} = (-2)$

$2c^2+3c-2 = 0$ $\quad (c+2)(c-1) = 0$

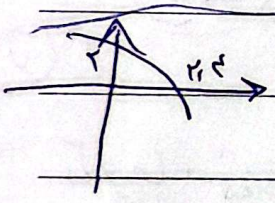


$f(x) = 1 + c \times 2^{ax+b}$

$0 = 1 + c \times 2^{a+b} \rightarrow -1 = c \times 2^{a+b}$ $\quad 2 = 2^b$

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

$1 - \frac{1}{4} = \frac{3}{4} \leftarrow 1 + (-\frac{1}{4})$



$y = c + \log_a^{(ax+b)}$

$\begin{cases} c + \log_3^b = 2 \\ c \log_3^{2a+b} = 0 \end{cases}$

$\log_{2.5}^{2a+b} - \log_\alpha^b = -2 \rightarrow \frac{2a+b}{b} = 2^{-2} = \frac{1}{2^2} = \frac{1}{4}$

$\frac{a}{b} = -\frac{3}{4}$

$f(x) = \log_{\frac{1}{2}}^{(|x^2-2|-x)} \rightarrow x^2-2-x > 0$ $\quad (x-2)(x+1) > 0$

$x^2+x-2 < 0$ $\quad (-\infty, -1) \cup (2, +\infty)$

$(-2, 1) \cup (-\infty, \sqrt{2}) \cup (\sqrt{2}, +\infty)$

$(-\infty, 1) \cup (2, \infty)$ $\quad$ (I) $\quad$ (II) $\rightarrow (-\sqrt{2}, 1)$

(I) $(-\infty, -\sqrt{2}) \cup (2, +\infty)$

(۵)

$f(x)=۲+۲^{b-ax}$

$۲+۲^{b+a}=۱۰ \rightarrow ۲^{b+a}=۲^{۳} \rightarrow b+a=۳$ $\quad ۲+۲^{b-a}=۴ \rightarrow ۲^{۱}=۲^{b-a} \rightarrow b-a=۱$

$\begin{cases} b+a=۳ \\ b-a=۱ \end{cases}$ $\quad ۲b-a \rightarrow ۲(۲)-۱=$ (۳)

$b=۲ \,,\, a=۱$

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(۶)

$f(x)=-۲+(\frac{۱}{۲})^{Ax+B}$ $\quad y=x^۲-x \quad (۱,۰)\,(۲,۰)$

$۰=-۲+\frac{۱}{۲}^{A+B} \rightarrow ۲=۲^{-A-B} \rightarrow ۲^{۱}=۲^{-A-B} \rightarrow -A-B=۱$

$۲=-۲+\frac{۱}{۲}^{۲A+B} \rightarrow ۴=\frac{۱}{۲}^{۲A+B} \rightarrow ۲^{۲}=۲^{-۲A-B} \rightarrow ۲=-۲A-B$

$A=-۱ \,,\, B=۰$

$f(x)=-۲+\frac{۱}{۲}^{-x} \rightarrow f(۳) \rightarrow -۲+\frac{۱}{۲}^{-۳} \rightarrow$

$-۲+۲^{۳} \rightarrow -۲+۸ \rightarrow$ (۶)

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(۷)

$P=P_{0}\times e^{k.t}$ $\quad P_{۲}=\frac{۸}{۹}^{t}\cdot P_{۱} \rightarrow \frac{۱}{۶}P_{۱}=\frac{۸}{۹}^{t}\cdot P_{۱}$

$\rightarrow \frac{۸}{۹}^{t}=\frac{۱}{۶} \rightarrow ۶^{-۱}$ log $\rightarrow \log_{\frac{۸}{۹}}^{۶}=t \rightarrow \frac{\log_{۵}^{۶}}{\log_{۵}^{\frac{۹}{۸}}} \rightarrow \frac{\log_{۵}^{۳}+\log_{۵}^{۲}}{\log_{۵}^{۹}-\log_{۵}^{۸}}=$

$\frac{\frac{۱۰}{۱۴}+\frac{۱۰}{۲۴}}{\frac{۲۰}{۱۴}-\frac{۳۰}{۲۴}}=\frac{\frac{۵}{۷}+\frac{۵}{۱۲}}{\frac{۱۰}{۷}-\frac{۱۵}{۱۲}} \rightarrow \frac{\frac{۹۵}{۸۴}}{\frac{۱۵}{۸۴}}=\frac{۹۵}{۱۵}\times ۴۰=$ (۲۵۳)

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(۸)

$M_{۲}=\frac{۹۶}{۱۰۰}^{t}A_{۱}$

$\frac{۱}{۳}A_{۱}$ $\quad \frac{۱}{۳}=(\frac{۹۶}{۱۰۰})^{t} \rightarrow$ log $\quad \log_{\frac{۹۶}{۱۰۰}}^{\frac{۱}{۳}}=t-\log_{\frac{۹۶}{۱۰۰}}^{۳} \Rightarrow \frac{۱}{\log_{۳}^{\frac{۹۶}{۱۰۰}}} \rightarrow$

$\log_{۳}^{\frac{۹۶}{۱۰۰}} \rightarrow \frac{\log_{۱۰}^{۹۶}}{\log_{۱۰}^{۳}} \rightarrow \frac{\log_{۳}^{۱۰۰}}{\frac{۲۵}{۶}}=$ (۲۴)

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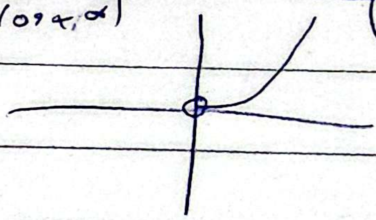
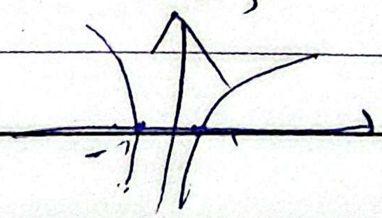
(۱۰)

الف) $y=۹^{\log_{۳}^{x}} \rightarrow ۳^{۲\log_{۳}^{x}}=x^{۲} \rightarrow$ $x>۰ \quad R(۰,+\infty)$



ب) $y=\log x^{۲} \rightarrow x^{۲}>۰$ $\quad R-\{۰\}$



$$\log_{\frac{8}{7}}^{7} = t \rightarrow \frac{\log_3^7}{\log_3^{\frac{8}{7}}} \rightarrow \frac{\frac{15}{4}}{\log_3^8 - \log_3^7} = \frac{\frac{15}{4}}{3\log_3^2 - \frac{15}{4}} \rightarrow \frac{\frac{15}{4}}{3 \times \frac{15}{12} - \frac{15}{4}} \quad \textcircled{8}$$

$$\frac{\frac{5}{4}}{3 \times \frac{5}{8} - \frac{5}{4}}$$

$$8 \xrightarrow{d} \times 7 \rightarrow \textcircled{56}$$