حل صفحه ۱۰۱

$y = 1 - \log_c^{ax - b}$

$(a+c)\,b = (1 - \frac{3}{4})(-\frac{3}{4}) = \frac{1}{4}\times\frac{3}{4} = -\frac{3}{16}$

$b + c = -\frac{3}{2}$, $c = b \Rightarrow 2b = -\frac{3}{2} \to b = -\frac{3}{4}$

$x = 0 \,,\, y = 2 \to 1 - \log_c^{-b} = 1 + \log_c^{b} = 2 \to \log_c^{b} = 1 \to \boxed{c = b}$

$x = -\frac{1}{2} \,,\, y = 0 \to 0 = 1 - \log_{-\frac{3}{4}}^{-\frac{3}{2}a + \frac{3}{4}} \to 1 = \log_{-\frac{3}{4}}^{-\frac{3}{2}a + \frac{3}{4}}$

$(-\frac{3}{4})^1 = -\frac{3}{2}a + \frac{3}{4} \to -\frac{6}{4} = -\frac{3}{2}a \to \boxed{a = 1}$

-۲

$f(x) = 1 + c \times 3^{a + bx}$ $\quad f(-1)$

$x = 0 \,,\, y = \frac{2}{3} \to 1 + c \times 3^a = \frac{2}{3} \to c \times 3^a = -\frac{1}{3}$

$x = 1 \,,\, y = 0 \to 1 + c \times 3^{a+b} = 0 \to c \times 3^a \times 3^b = -1$

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

باهم قرار میدهیم

$-\frac{1}{3} = \frac{-1}{3^b} \to \boxed{b = 1}$

$f(-1) \to x = -1 \to y = 1 + c \times 3^{a-b} = 1 + \underbrace{c \times 3^a}_{-\frac{1}{3}} \times \frac{1}{3^b} = 1 - \frac{1}{9} = \frac{8}{9}$

حمیدا عظیمیان $\quad \frac{a}{b} = ? = \frac{-\frac{۲}{۵}b}{b} = -\frac{۲}{۵} \quad y = c + \log_{۵}^{ax+b}$ (۱۳

$x = ۰ , \; y = ۲ \rightarrow ۲ = c + \log_{۵}^{b} \rightarrow c = ۲ - \log_{۵}^{b}$

$x = ۲,۴ , \; y = ۰ \rightarrow ۰ = c + \log_{۵}^{۲,۴a+b}$

$۲ - \log_{۵}^{b} + \log_{۵}^{۲,۴a+b}$

$-۲ = \log_{۵}^{۲,۴a+b} - \log_{۵}^{b} \rightarrow -۲ = \log_{۵}^{\frac{۲,۴a+b}{b}} \rightarrow \frac{۱}{۲۵} = \frac{۲,۴a+b}{b}$

$b = ۶۰a + ۲۵b \rightarrow ۲۴b = -۶۰a \rightarrow a = \frac{۲۴}{-۶۰} b = -\frac{۲}{۵} b$

REEF GROUP

پاسخ تمرین

۴- $f(x)=\log_{4}(|x^2-2|-x)$ ؟ D

$|x^2-2|-x>0 \rightarrow x<|x^2-2| \rightarrow$ A: $x<x^2-2$ ، $x^2-2<-x$

$0<x^2-x-2 \rightarrow$ $(x-2)(x+1)$: -1، 2 : + − +

$x^2+x-2<0$: -2، 1 : + − +

$D=(-\infty,-1)\cup(2,+\infty)$ ∩ $D=(-2,1)$

$D_f=(-2,-1)$

۵- $f(x)=2+2^{bx-ax}$ ، $g(x)=-x^2-2x+5x$ ، $x=1$ قطع کرده

$f^{-1}(10)=-1$ ، $2b-a=?$ ، $b+\underbrace{b-a}_{2}=\frac{a}{2}+2=4/5$

$x=1 \rightarrow f(x)=2+2^{b-a}$ ، $2^{b-a}=4 \rightarrow 2^{b-a}=2^2 \rightarrow b-a=2$

$x=1 \rightarrow -1-2+5=4$

$f^{-1}(10)=-1 \rightarrow f(-1)=10 \rightarrow 10=2+2^{b+a} \rightarrow 8=2^{b+a} \rightarrow b+a=3$

$\underbrace{b-a}_{2}+\underbrace{b+a}_{3}=5 \rightarrow 2b=5 \rightarrow b=\frac{5}{2}$

۶- $f(x)=-2+(\frac{1}{2})^{Ax+B}$ ، $y=x^2-x$ ، $x=1,2$

$f(3)=? \rightarrow f(x)=-2+2^{3x-4}=-2+32=30$

$x=1 \rightarrow -2+2^{-(A+B)}=0 \rightarrow -(A+B)=1 \rightarrow A+B=-1 \xrightarrow{A=3} B=-4$

$x=2 \rightarrow -2+2^{2A+B}=2 \rightarrow 2A+B=2 \rightarrow A=3$

$\underbrace{A+B}_{-1}+A=2$

$\log_{5}^{2} = \frac{5}{12}$ $\qquad$ $\log_{5}^{3} = \frac{5}{7}$

حل با صفحه [illegible]

$1 - \frac{1}{9} = \frac{8}{9}$ → باقی‌مانده $\rightarrow h = P \cdot e^{t}$ ۷-

$\frac{1}{6} m_1 = m_1 \left(\frac{8}{9}\right)^{t} \rightarrow \log_{5}^{\frac{1}{6}} = t \log_{5}^{\frac{8}{9}}$

$\log_{5}^{1} - \log_{5}^{6} = -\log_{5}^{2\times 3} = -(\log_{5}^{2} + \log_{5}^{3}) = -\left(\frac{5}{12} + \frac{5}{7}\right) = -\frac{95}{84}$

$\log_{5}^{\frac{8}{9}} = 3\log_{5}^{2} - 2\log_{5}^{3} \Rightarrow 3 \times \frac{5}{12} = \frac{5}{4} - 2 \times \frac{5}{7} = \frac{-5}{28}$

$-\frac{95}{84} = t\left(-\frac{5}{28}\right) \rightarrow t = \frac{19}{3} h \rightarrow \frac{19}{3} \times 60 = 380 \, min$

۸-

$\frac{100}{100} - \frac{12.5}{100} = \frac{87.5}{100}$

$\frac{1}{2} m_1 = m_1 \left(\frac{87.5}{100}\right)^{t}$

حلیه صفریان

۶- $\log_{10}^{\frac{96}{100}} t = \log_{10}^{\frac{1}{3}} \Rightarrow m_1 \left(\frac{96}{100}\right)^t = \frac{1}{3} m_1$ $\qquad \frac{100-4}{100} = \frac{96}{100}$

$-\log^{3} = t\left(\log_{10}^{96} - \log_{10}^{100}\right) \Rightarrow -0/48 = t\,(0/48 - 1/5) \Rightarrow t = 4 + \frac{1}{8} = \frac{33}{8}$

$1/98$

$\log_{10}^{3} + 5\log_{10}^{2}$

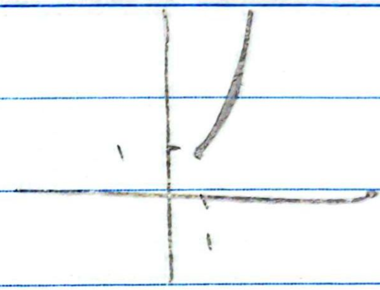
حلیا صفرزال

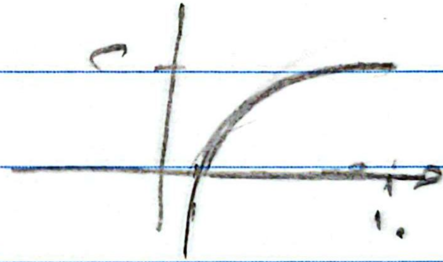
-۱۰

$x > 0$

$y = 9^{\log_3 x} = x^{\log_3 9} = x^2$, $\log_3 9 = 2$

$\log_3 x > 0 \rightarrow x > 1$





ز) $y = \log x^2 = 2\log x$