۱۹

نام و نام خانوادگی ...درسا صادق زاده... پاسخنامه تشریحی تکلیف شماره ...۲۱... کلاس ...یازدهم ریاضی...

$(0,2)\quad(-\frac{3}{2},0)$ $\quad (a+c)b=-3 \quad b+c=-\frac{3}{2} \quad y=1-\log_c^{(ax-b)}$

$y=1-\log_c^{(ax-b)} \xrightarrow[(0,2)]{(-\frac32,0)} 1-\log_c^{-b}=2 \Rightarrow \log_c^{-b}=-1 \Rightarrow c^{-1}=-b$ ۱

$\Rightarrow \frac{1}{c}=-b$, $y=1-\log_c^{-\frac{3}{2}a-b}=0 \rightarrow \log_c^{-\frac32 a-b}=1 \Rightarrow c+b=-\frac32 a$

$\Rightarrow a=+1$ $\quad -\frac1c+c=\frac{c^2-1}{c}=-\frac32 \rightarrow 2c^2-2=-3c \rightsquigarrow c=\frac12$ (ق‌ق) , $b=-2$

$(0,\frac23),\ (1,0)$ $\quad f(x)=1+c\times 3^{a+bx}$

$\xrightarrow{(0,\frac23)} 1+3^a c=\frac23 \Rightarrow c\times 3^a=-3^{-1} \Rightarrow c=-1,\ a=-1$

$\xrightarrow{(1,0)} 1-1\times 3^{-1+b}=0 \quad 1=3^{-1+b} \Rightarrow -1+x=0 \Rightarrow b=1$ ۲

$f(x)=1-3^{-1+x} \Rightarrow f(-1)=1-\underbrace{3^{-2}}_{\frac19}=\frac89$

$(0,2),(2.4,0)$ $\quad y=c+\log_d^{ax+b}$

$\xrightarrow[(2.4,0)]{(0,2)} 2=c+\log_5^b$, $-c=\log_5^{2.4a+b}$

$\log_5^b-\log_5^{2.4a+b}=2 \rightarrow \log_5^{\frac{b}{2.4a+b}}=2 \quad \frac{b}{2.4a+b}=25$ ۳

$\Rightarrow 24b=-60a \rightarrow \frac ab=-0.4$

$g(1)=f(1) \rightarrow -1-3+8=4=2+2^{b-a} \rightarrow 2=2^{b-a}$

$\Rightarrow b-a=1 \quad f^{-1}(10)=1 \rightarrow f(1)=10$

$\rightarrow 10=2+2^{b+a} \rightarrow 2^3=2^{b+a} \rightarrow b+a=3$ ~~۴~~ ۵

$\begin{cases} b-a=1\\ b+a=3\end{cases}$ $\quad 2b-a=3$

$2b=4 \rightarrow b=2,\ a=1$

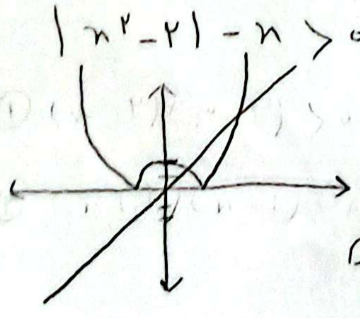
$|x^2-2|-x>0 \rightarrow |x^2-2|>x \rightarrow |x^2-2|=x$

$(x-2)(x+1)=0$

$x=2,\ x=-1$ غ‌ق‌ق

$x^2-2+x=0 \quad (x+2)(x-1)=0$ ۶

$x=-2,\ x=1$ غ‌ق‌ق



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

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

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

$\begin{cases} A+B=-1)\times -1 \\ 2A+B=-2 \end{cases}$

$A=-1 \quad B=0 \to f(x) = -2+2^x \to f(3)=6$

2 ۶

$m(t) = x \times \left(\frac{8}{9}\right)^{\frac{t}{40}} = \frac{1}{4}x \to \left(\frac{8}{9}\right)^{\frac{t}{40}} = \frac{1}{4}$

مقدار اولیه کنید

2

$\log_{\frac{8}{9}} \frac{1}{4} = \frac{t}{40} \to \frac{t}{40} = \frac{\log_5 \frac{1}{4}}{\log_5 \frac{8}{9}} = \frac{\log_5 1 - \log_5 4}{\log_5 8 - \log_5 9} = \frac{0 - \log_5 2 \cdot 2\log_5 3}{3\log_5 2 - 2\log_5 3}$

$\frac{-\frac{5}{12} - \frac{5}{7}}{3\times\frac{5}{12} - 2\times\frac{5}{7}} = \frac{19}{3} \Rightarrow t = 380\,min$

$\log_5 2 = \frac{1}{\log_2 5} = \frac{5}{12}, \quad \log_5 3 = \frac{1}{\log_3 5} = \frac{1}{1.4} = \frac{5}{7}$

$m(t) = x \times \left(\frac{7}{8}\right)^{\frac{t}{7}} = \frac{1}{7}x \Rightarrow \log_{\frac{7}{8}} \frac{1}{7} = \frac{t}{7}$

$\log_3 2 = \frac{1}{\log_2 3} = \frac{5}{8}$

$\log_3 7 = \frac{1}{\log_7 3} = \frac{5}{3}$

$\frac{t}{7} = \frac{\log_3 \frac{1}{7}}{\log_3 \frac{7}{8}} = \frac{\log_3 1 - \log_3 7}{\log_3 7 - \log_3 8} = \frac{-\frac{5}{3}}{\frac{5}{3} - \frac{15}{8}} = 8$ ۸

2

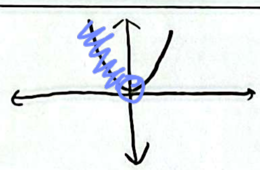
$t = 56$ روز

$m(t) = x \times \left(\frac{96}{100}\right)^t = \frac{1}{3}x \to \log_{\frac{96}{100}} \frac{1}{3} = t \to \frac{\log \frac{1}{3}}{\log \frac{96}{100}}$

$= \frac{-\log 3}{\log 96 - \log 100} = \frac{-\log 3}{5\log 2 + \log 3 - 2} = \frac{-0.48}{1.5 + 0.48 - 2} = \frac{-0.48}{-0.02} = 24$ ۹

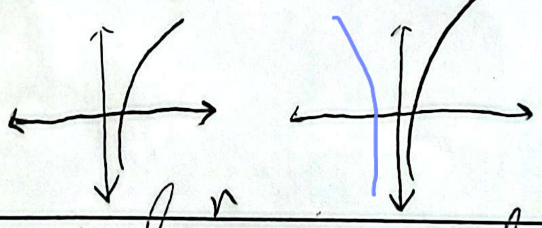
2

$y = 9^{\log_3 x} = x^2 \qquad D_f = (0, +\infty)$



$y = \log x^2 = 2\log_{10} x \qquad D_f = \mathbb{R} - \{0\}$

1 ۱۰



$y = \log_{10} x \qquad y = 2\log_{10} x$