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

1

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

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

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

$\Rightarrow a=+1\qquad -\frac{1}{c}+c=\frac{c^2-1}{c}=-\frac{3}{2} \rightarrow 2c^2-2=-3c \rightsquigarrow c=\frac{1}{2}$ (غ ق ق)$,\ b=-2$

2

$(0,\frac{2}{3}),\ (1,0)\qquad f(x)=1+c\times 3^{a+bx}$

$\xrightarrow{(0,\frac{2}{3})} 1+3^a c=\frac{2}{3} \Rightarrow c\times 3^a=-3^{-1} \Rightarrow c=-1,\ a=-1$

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

$f(x)=1-3^{-1+x} \Rightarrow f(-1)=1-\underbrace{3^{-2}}_{\frac{1}{9}}=\frac{8}{9}$

3

$(0,2),\ (2.4,0)\qquad y=c+\log_5^{ax+b}$

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

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

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

~~4~~ 5

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

$\Rightarrow b-a=1\qquad f^{-1}(10)=1 \longrightarrow f(1)=10$

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

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

$2b=4 \rightarrow b=2,\ a=1\qquad 2b-a=3$

6

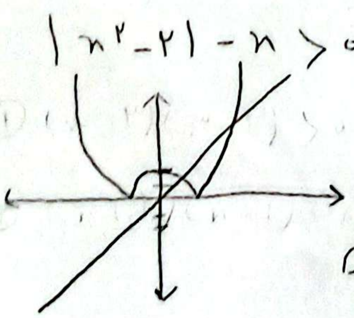
$|x^2-2|-x>0 \rightarrow |x^2-2|>x \rightarrow |x^2-2|=x$

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

$x=2,\ x=-1$ (غ ق ق)

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

$x=-2$ (غ ق ق)$,\ x=1$



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

$n=1 \rightarrow 0 = -2 + \left(\frac{1}{2}\right)^{A+B} \rightarrow 2 = 2^{-A-B} \Rightarrow A+B=-1$ ۶

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

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

$A=-1 \quad B=0 \rightarrow f(n) = -2 + 2^{n} \rightarrow f(3) = 6$

$m(t) = x_0 \times \left(\frac{8}{9}\right)^{\frac{t}{40}} = \frac{1}{4} x \Rightarrow \left(\frac{8}{9}\right)^{\frac{t}{40}} = \frac{1}{4}$

مقدار اولیه کنید

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

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

$\log_5 2 = \frac{1}{\log_2 5} = \frac{5}{12}, \quad \log_5 3 = \frac{1}{\log_3 5} = \frac{1}{1/4} = \frac{5}{7}$

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

$\log_3 2 = \frac{1}{\log_2 3} = \frac{5}{8}, \quad \log_3 7 = \frac{1}{\log_7 3} = \frac{5}{3}$

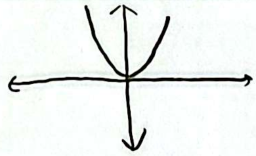
$\frac{t}{7} = \frac{\log_3 \frac{1}{7}}{\log_3 \frac{7}{8}} = \frac{\log_3 1 - \log_3 7}{\log_3 7 - \log_3 8} = \frac{-\frac{5}{3}}{\frac{5}{3} - \frac{15}{8}} = 8$ ۸

$t = 56$ روز

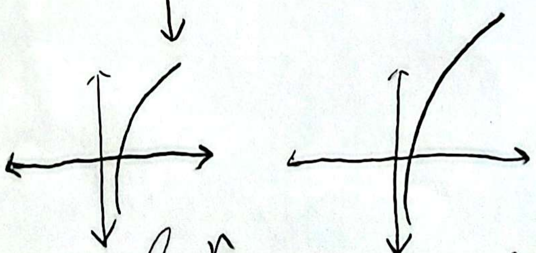
$m(t) = x \times \left(\frac{96}{100}\right)^{t} = \frac{1}{3} x \rightarrow \log_{\frac{96}{100}} \frac{1}{3} = t \rightarrow \frac{\log \frac{1}{3}}{\log \frac{96}{100}}$

$= \frac{-\log 3}{\log 96 - \log 100} = \frac{-\log 3}{5\log 2 + \log 3 - 2} = \frac{-0/48}{1/5 + 0/48 - 2} = \frac{-0/48}{-0/02} = 24$ ۹

$y = 9^{\log_3 x} = x^2$ ۱۰



$y = \log x^2 = 2 \log_{10} x$



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