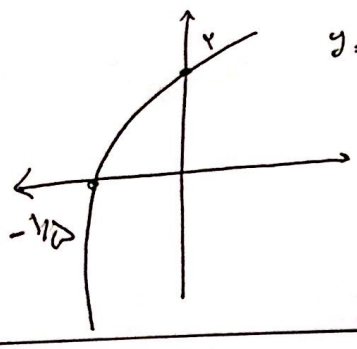
$b=-1$ $c=1$ $\quad 2c^{-2}+\frac{3}{2}c=0$ $\quad \leftarrow -\frac{1}{c}+c=-\frac{3}{2}$ $\quad -b=c^{-1}$

$(c+2)(c-1)$ $\quad c^2+3c-4=0$

نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

۱



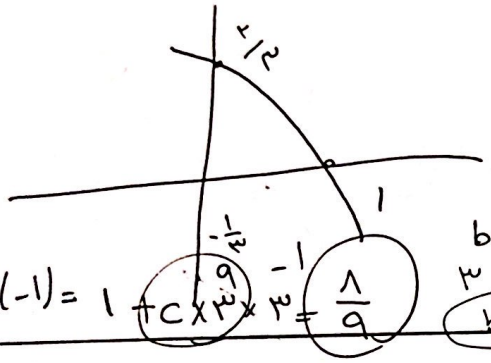
$y=1-\log_c^{(ax-b)}$ $\quad x=0 \to y=2$ $\quad 1-\log_c^{(-b)}=2 \to \log_c^{-b}=-1$

$b+c=-\frac{3}{2}$ $\quad 1-\log_c^{1/5a-b}=0 \to 1=\log_c^{1/5a-b}$

$(a+c)b=?$ $\quad 1/5a-b=c$ $\quad 1/5a+\frac{1}{c}=c$

$(1+\frac{-1}{2})\frac{1}{2}=-\frac{1}{2}$ $\quad a=1$

۲



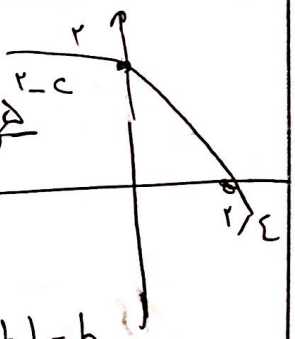
$f(x)=1+cx3^{a+bx}$ $\quad x=1,y=0 \to 1+cx3^{a+b}=0$

$f(x)=1+cx3^{a+bx}$ $\quad x=0,y=\frac{2}{3} \to 1+cx3^{a}=\frac{2}{3}$

$cx3^{a}=-\frac{1}{3}$ $\quad cx3^{a}\times 3^{b}=-1$ $\quad cx3^{a}=-\frac{1}{3}$

$f(-1)=1+cx3^{-1}\times 3=\frac{8}{9}$ $\quad 3^b=3$ $\quad b=1$

۳



$y=c+\log_5^{(ax+b)}$ $\quad x=2/4 \to c+\log_5^{2/4a+b}=c$ $\quad 5=9-c$

$x=0 \to y=2$ $\quad c+\log_5^{(b)}=2-c$ $\quad 2/4a+b=-c$

$\frac{a}{b}=-\frac{4}{10}=-\frac{2}{5}$ $\quad 9=(2/4a+b)2\times 2$ $\quad 9=-2\times 2b$ $\quad 9=2-c$

۴

$f(x)=\log_4^{(|x^2-2|-x)}$ $\quad |x^2-2|-x>0$

$D_f=(-2,-1)$

$|x^2-2|-x>0 \to |x^2-2|>x \to \begin{cases} x^2-2>x \to x^2-x-2 \to (x-2)(x+1) \\ x^2-2<-x \end{cases}$

۵

$f(x)=2+2^{b-ax}=4 \to 2^{b-a}=2^2$ $\quad b-a=1$

$g(x)=-x^2-2x+8 \xrightarrow{x=1} -1-2+8=5$

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

$b-a=1$

$2b=4$ $\quad b=2$ $\quad a=1$

$2b-a=3$

$f(x) = -2 + \left(\frac{1}{2}\right)^{Ax+B}$ $\xrightarrow{x=1}$ $\begin{cases} -2 + \left(\frac{1}{2}\right)^{A+B} = 0 \\ -2 + \left(\frac{1}{2}\right)^{2A+B} = 2 \end{cases}$

$y = x^2 - x$ $\begin{cases} x=1 \to 0 \\ x=2 \to y=2 \end{cases}$

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

$+A + B = 1$

$-2A - B = 2$

$-A = 3$

$A = -3$

$B = 4$

$f(3) = -2 + \left(\frac{1}{2}\right)^{3x-1} = 9$

$P(t) = P(0)\left(1 - \frac{1}{9}\right)^t$

$\frac{1}{4} = \left(\frac{8}{9}\right)^t \to \log_{\frac{8}{9}} \frac{1}{4} = t \to t = \frac{\log 4}{\log \frac{9}{8}} = \frac{2\log 2}{3\log 3 - 3\log 2}$

$= \frac{2}{\frac{3}{10} - \frac{3}{14}} = \frac{140}{42 - 30} = \frac{140}{12} = 11.6$ ساعت

$\frac{1}{7} P_0 = P_0\left(1 - \frac{15}{100}\right)^t$ ۶ روز

$\to \frac{1}{7} = \left(\frac{85}{100}\right)^t \to \log \frac{85}{100} = \frac{t}{7} \to \log \frac{8}{7} \to \frac{\log 7}{\log 8 - \log 7} = \frac{t}{7}$

$\to \frac{7 \times 1 \times 14 \times 9}{2 \times 30} \Rightarrow t \to t = 49$ روز

$\left(\frac{96}{100}\right)^t = \frac{1}{3} \to \log \frac{96}{100} = t \to \log \frac{3}{4} \to \frac{\log 3}{\log 10 - \log 96} = \frac{10}{48}$

$\frac{\log 1 - \log 3}{\log 96 - \log 100} = \frac{-\log 8}{\frac{2}{10}} \to$ ۴۵ روز

$y = 9 \log_x 3 = x^2 \to$

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