نام و نام خانوادگی ابوالفضل ابوفاضلی ..... پاسخنامه تشریحی تکلیف شماره ۲۵ کلاس یازدهم

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$f(0)=2 \rightarrow 1-\log_c^{-b}=2 \rightarrow \log_c^{-b}=-1 \rightarrow \frac{1}{c}=-b \rightarrow \boxed{1=-bc}$

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

$-1.5a=b+c=-\frac{3}{2} \rightarrow \boxed{a=1}$

$\begin{cases} b+c=-\frac{3}{2} \\ bc=-1 \end{cases} \rightarrow \begin{cases} b=-2 \\ c=\frac{1}{2} \end{cases} \rightarrow (a+b)c = (1-2)\frac{1}{2} = -\frac{1}{2}$

۲

$f(1)=0 \rightarrow 1+3^{a+b}\times c=0$

$f(0)=\frac{2}{3} \rightarrow 1+3^{a}\times c=\frac{2}{3}$

$\rightarrow \begin{cases} \dfrac{3^a \times 3^b \times c=-1}{3^a \times c=-\frac{1}{3}} \end{cases} \Rightarrow 3^b=3$

$\Rightarrow \boxed{b=1} \quad f(-1)=1+\underbrace{c\times 3^{a}}_{-\frac{1}{3}}\times 3^{bx} \xrightarrow[x=-1]{b=1} 1-\frac{1}{9}=\frac{8}{9}$

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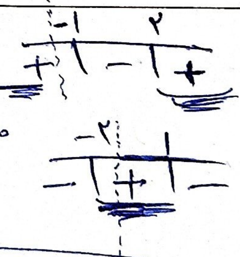
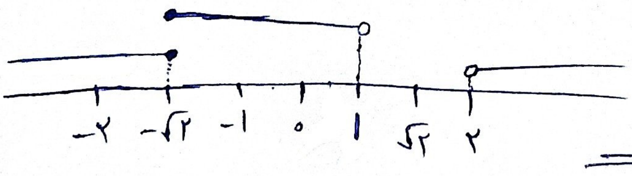
$y=c+\log_5^{(ax+b)} \rightarrow \begin{cases} 2=c+\log_5^{b} \\ 0=c+\log_5^{(2.4a+b)} \end{cases}$

$\rightarrow \log_5^{\frac{2.4a+b}{b}}=-2 \Rightarrow \frac{2.4a+b}{b}=\frac{1}{25} \Rightarrow 2.4\frac{a}{b}+1=\frac{1}{25} \Rightarrow \frac{a}{b}=\frac{-2}{5}$

۴

$|x^2-2|-x>0 \rightarrow \begin{cases} x<-\sqrt{2} \text{ یا } x>\sqrt{2}; \quad x^2-x-2>0 \quad (x-2)(x+1)>0 \\ -\sqrt{2}<x<\sqrt{2}; \quad -x^2-x+2>0 \quad -(x+2)(x-1)>0 \end{cases}$





$\Rightarrow \boxed{D=(-\infty,1)\cup(2,+\infty)}$

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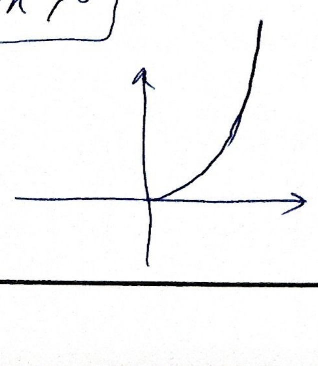
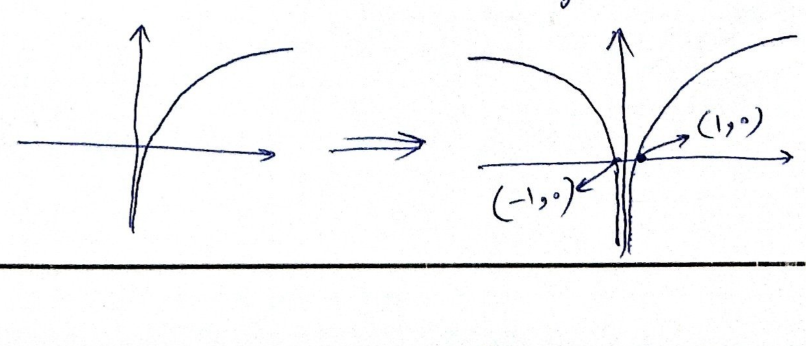
$g(1)=-(1)^2-3(1)+8=4 \Rightarrow f(1)=2+2^{b-a}=4 \rightarrow b-a=1$

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

$\begin{cases} b+a=3 \\ b-a=1 \end{cases} \rightarrow 2b=4 \rightarrow \boxed{\begin{matrix} b=2 \\ a=1 \end{matrix}} \Rightarrow 2(2)-(1)=3$

$x=1 \to (1)^2-1=0 \to -2+(2^{-1})^{A+B}=0 \to A+B=-1$ $x=2 \to (2)^2-2=2 \to -2+(2^{-1})^{2A+B}=2 \to 2A+B=-2$ $\Rightarrow \boxed{A=-1,\ B=0}$ $f(x)=-2+\left(\frac{1}{2}\right)^{-x}=-2+(2)^x \to f(3)=-2+2^3=\boxed{6}$	۶
$B(x)=B_0\left(\frac{8}{9}\right)^x \to \frac{B_0}{4}=B_0\left(\frac{8}{9}\right)^x \to \left(\frac{8}{9}\right)^x=\frac{1}{4}$ $\log_5\left(\frac{8}{9}\right)^x = x\log_5\frac{8}{9}=\log_5\frac{1}{4}=-\log_5 4 \to x=\frac{-\log_5 4}{\log_5 8-\log_5 9}=\frac{-\left(\frac{5}{12}+\frac{5}{7}\right)^7}{\left(\frac{15}{12}-\frac{10}{7}\right)}$ $\log_5 2=\frac{5}{12},\ \log_5 3=\frac{5}{7}$ $=\frac{-\frac{95}{84}}{-\frac{15}{84}}=+\frac{95}{15}=\boxed{\frac{19}{3}}$	۷
$B(t)=B_0\left(\frac{7}{8}\right)^{\frac{t}{7}} \to \frac{1}{7}B_0=B_0\left(\frac{7}{8}\right)^{\frac{t}{7}} \to \left(\frac{7}{8}\right)^{\frac{t}{7}}=\frac{1}{7}$ $\boxed{\log_3\left(\frac{7}{8}\right)^{\frac{t}{7}}}=\frac{t}{7}\log_3\frac{7}{8}=\boxed{\log_3\frac{1}{7}} \Rightarrow \frac{t}{7}\log_3 7-\log_3 8=-\log_3 7$ $\to \frac{t}{7}\left(\frac{5}{3}-\frac{15}{8}\right)=-\frac{5}{3} \to \boxed{t=56}$	۸
$f(x)=P_0\left(\frac{96}{100}\right)^x \to \frac{P_0}{3}=P_0\left(\frac{96}{100}\right)^x \to \left(\frac{96}{100}\right)^x=\frac{1}{3}$ $\log\left(\frac{96}{100}\right)^x=\log\frac{1}{3}=x\log\frac{96}{100}=-\log 3=x(\log 96-\log 100)=-\log 3$ $x(\log 32+\log 3-2)=-\log 3 \to x(5\log 2+\log 3-2)=x(1.5+0.48-2)=-0.48$ $\Longrightarrow \boxed{x=24}$	۹
الف) $9^{\log_3 x}=x^{\log_3 9}=x^2$ $\boxed{D_y=x>0}$  ب) $y=\log x^2=2\log x$ $\to x=\mathbb{R} \to D_y=\mathbb{R}$ 	۱۰