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

۱۹٫۵

۱ (۱٫۷۵)

$f(0)=۲ \rightarrow 1-\log_c^{-b}=۲ \rightarrow \log_c^{-b}=-1 \rightarrow \frac{1}{c}=-b \rightarrow \boxed{1=-bc}$

$f(-1,5)=0 \rightarrow 1-\log_c^{-1,5-b}=0 \rightarrow \log_c^{-(1,5+b)}=1 \Rightarrow -1,5a-b=c$

$-1,5a=b+c=-\frac{۳}{۲} \rightarrow \boxed{a=1}$ ✓

$\begin{cases} b+c=-\frac{۳}{۲} \\ bc=-1 \end{cases} \rightarrow \begin{cases} b=-۲ \\ c=\frac{1}{۲} \end{cases} \rightarrow (a+c)b=(1-۲)\frac{1}{۲}=-\frac{1}{۲}$

دقت!

$(a+c)b=\boxed{-۳}$

۲ (۲)

$f(1)=0 \rightarrow 1+۳^{a+b}\times c=0$

$f(0)=\frac{۲}{۳} \rightarrow 1+۳^{a}\times c=\frac{۲}{۳}$

$\rightarrow \begin{cases} ۳^{a}\times ۳^{b}\times c=-1 \\ ۳^{a}\times c=-\frac{1}{۳} \end{cases} \Rightarrow ۳^{b}=۳$

$\rightarrow \boxed{b=1}$ ✓ $\quad f(-1)=1+\underbrace{c\times ۳^{a}}_{-\frac{1}{۳}}\times ۳^{bn} \xrightarrow[n=-1]{b=1} 1-\frac{1}{۹}=\frac{۸}{۹}$ ✓

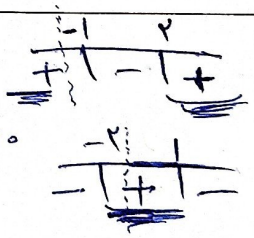
۳ (۲)

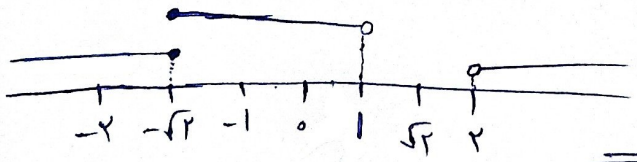
$y=c+\log_۷^{(ax+b)} \rightarrow \begin{cases} ۲=c+\log_۷^{b} \\ 0=c+\log_۷^{(۲,۴a+b)} \end{cases}$

$\rightarrow \log_۷^{\frac{۲,۴a+b}{b}}=-۲ \Rightarrow \frac{۲,۴a+b}{b}=\frac{1}{۴۹} \Rightarrow ۲,۴\frac{a}{b}+1=\frac{1}{۴۹} \Rightarrow \boxed{\frac{a}{b}=\frac{-۲}{۷}}$ ✓

۴ (۲)

$|x^{۲}-۲|-x>0 \rightarrow \begin{cases} x<-\sqrt{۲} \text{ یا } x>\sqrt{۲}; & x^{۲}-x-۲>0 \quad (x-۲)(x+1)>0 \\ -\sqrt{۲}<x<\sqrt{۲}; & -x^{۲}-x+۲>0 \quad -(x+۲)(x-1)>0 \end{cases}$





$\Rightarrow \boxed{D=(-\infty,1)\cup(۲,+\infty)}$ ✓

۵ (۲)

$g(1)=-(1)^{۲}-۳(1)+۸=۴ \Rightarrow f(1)=۲+۲^{b-a}=۴ \rightarrow b-a=1$

$f(-1)=10 \rightarrow ۲+۲^{b+a}=10 \rightarrow b+a=۳$

$\begin{cases} b+a=۳ \\ b-a=1 \end{cases} \rightarrow ۲b=۴ \rightarrow \begin{cases} b=۲ \\ a=1 \end{cases}$ ✓ $\Rightarrow ۲(۲)-(1)=\boxed{۳}$ ✓

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

$x=2 \to (2)^2-2=2 \to -2+(2^{-1})^{2A+B}=2 \to 2A+B=-2$

$\Rightarrow \boxed{A=-1,\ B=0}$ (2)

$f(x)=-2+\left(\frac{1}{2}\right)^{-x}=-2+(2)^x \to f(3)=-2+2^3=\boxed{6}$ ✓ 6

$B(x)=B_0\left(\frac{8}{9}\right)^x \to \frac{B_0}{4}=B_0\left(\frac{8}{9}\right)^x \to \left(\frac{8}{9}\right)^x=\frac{1}{4}$ (1.75)

$\log_5\left(\frac{8}{9}\right)^x = x\log_5\frac{8}{9}=\log_5\frac{1}{4}=-\log_5 4 \to x=\frac{-\log_5 4}{\log_5 8-\log_5 9}=\frac{-\left(\frac{5}{12}+\frac{5}{7}\right)}{\left(\frac{15}{12}-\frac{10}{7}\right)}$

$\log_5 2=\frac{5}{12},\ \log_5 3=\frac{5}{7}$

$=\frac{-\frac{95}{84}}{-\frac{15}{84}}=+\frac{95}{15}=\boxed{\frac{19}{3}}$ ✓ $\times 60 = 380\,min$

$B(t)=B_0\left(\frac{7}{8}\right)^{\frac{t}{7}} \to \frac{1}{7}B_0=B_0\left(\frac{7}{8}\right)^{\frac{t}{7}} \to \left(\frac{7}{8}\right)^{\frac{t}{7}}=\frac{1}{7}$ (2)

$\log_3\left(\frac{7}{8}\right)^{\frac{t}{7}}=\frac{t}{7}\log_3\frac{7}{8}=\log_3\frac{1}{7} \Rightarrow \frac{t}{7}\left(\log_3 7-\log_3 8\right)=-\log_3 7$ 8

$\to \frac{t}{7}\left(\frac{5}{3}-\frac{15}{8}\right)=-\frac{5}{3} \to \boxed{t=56}$ ✓

$f(x)=P_0\left(\frac{96}{100}\right)^x \to \frac{P_0}{3}=P_0\left(\frac{96}{100}\right)^x \to \left(\frac{96}{100}\right)^x=\frac{1}{3}$ (2)

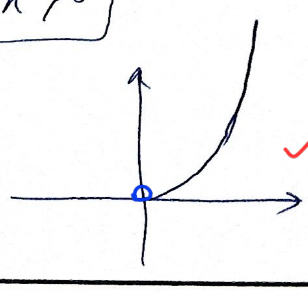
$\log\left(\frac{96}{100}\right)^x=\log\frac{1}{3}=x\log\frac{96}{100}=-\log 3=x(\log 96-\log 100)=-\log 3$ 9

$x(\log 32+\log 3-2)=-\log 3 \to x(5\log 2+\log 3-2)=x(1.5+0.48-2)=-0.48$

$\Longrightarrow \boxed{x=24}$ ✓

الف) $9^{\log_3 x}=x^{\log_3 9}=x^2$

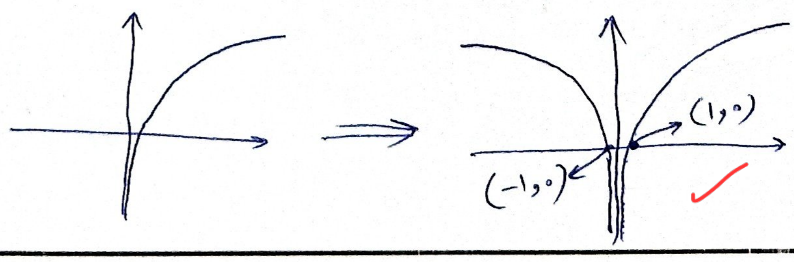
$\boxed{D_y = x>0}$



✓

ب) $y=\log x^2=2\log x$

$\to x=\mathbb{R} \to D_y=\mathbb{R}$ (2) 10



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