۱۹,۷۵

نام و نام خانوادگی ...عارف جعفر الهی...... پاسخنامه تشریحی تکلیف شماره ..۲۵.. کلاس ..یازدهم تجربی B..

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

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

$\begin{cases} b+c=-1.5 \\ bc=-1 \end{cases} x^2+1.5x-1=0 \Rightarrow \begin{cases} b=-2 \\ c=\frac{1}{2} \end{cases} \quad \begin{cases} b=\frac{1}{2} \\ c=-2 \end{cases}$ غ ق

زیرا پایه حالت منفی نمی‌تواند

$(a+c)b=b-1=\begin{cases} -3 ✓ \\ -1.5 \end{cases}$

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$\begin{cases} f(0)=\frac{2}{3} \Rightarrow 1+c\times 3^a=\frac{2}{3} \Rightarrow c\times 3^a=-\frac{1}{3} \\ f(1)=0 \Rightarrow 1+c\times 3^{a+b}=0 \Rightarrow 1+c\times 3^a\times 3^b=0 \end{cases}$

$\xRightarrow{c\times 3^a=-\frac{1}{3}} 1+\left(-\frac{1}{3}\right)\times 3^b=0 \Rightarrow 3^b=3 \Rightarrow b=1$

$f(-1)=1+c\times 3^{a-1}=1+\underbrace{c\times 3^a}_{-\frac{1}{3}}\times 3^{-1}=1+\left(-\frac{1}{3}\right)\times 3^{-1}=1+\overbrace{\left(-\frac{1}{3}\right)\times\left(\frac{1}{3}\right)}^{-\frac{1}{9}}=\boxed{\frac{8}{9}}$

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$\begin{cases} 2=c+\log_5^b \\ 0=c+\log_5^{(2.4a+b)} \end{cases} \Rightarrow \log_5^{(2.4a+b)}-\log_5^b=-2$

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

$\Rightarrow \frac{2.4a}{b}+1=\frac{1}{25} \Rightarrow \frac{24}{10}\times\frac{a}{b}=\frac{-24}{25} \Rightarrow \boxed{\frac{a}{b}=\frac{-2}{5}}$

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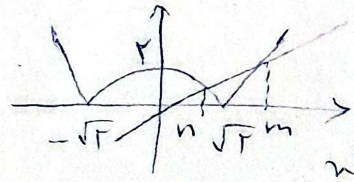
$|x^2-2|-x>0 \Rightarrow |x^2-2|>x \longrightarrow$ بدست آوردن دامنه با کمک رسم نمودار



$(-\infty,n)\cup(m,+\infty) \quad m>\sqrt{2}$

$0<n<\sqrt{2}$

$x^2-2=x \Rightarrow x^2-x-2=0 \Rightarrow \begin{cases} x=-1 \\ x=2 \end{cases} \Rightarrow m=2$

$-x^2+2=x \Rightarrow x^2+x-2=0 \Rightarrow \begin{cases} x=1 \\ x=-2 \end{cases} \Rightarrow n=1$

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

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

$\Rightarrow 2^{b-a}=2 \Rightarrow b-a=1$

$10=f(-1) \Leftarrow f^{-1}(10)=-1$

$2+2^{b+a}=10 \Rightarrow 2^{b+a}=8 \Rightarrow b+a=3$

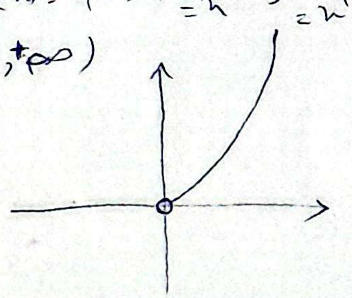
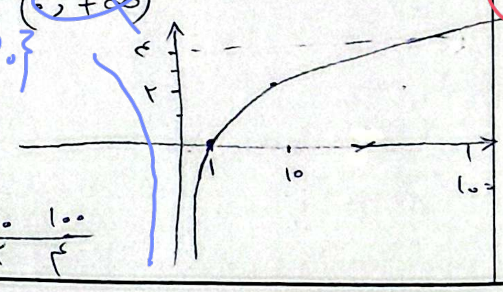
$\begin{cases} b-a=1 \\ b+a=3 \end{cases} \Rightarrow 2b=4 \Rightarrow b=2 \Rightarrow a=1 \Rightarrow 2b-a=4-1=\boxed{3}$

ادامه ۷

$\Rightarrow t\left(\frac{35-40}{28}\right) = -\left(\frac{35+40}{84}\right) \Rightarrow -5t = -\frac{95}{3} \Rightarrow t = \frac{19}{3}$

$\frac{19}{3} \times 60 = \boxed{380\ min}$

عارف فضل اللهی

۲	$y = x^2 - x \Rightarrow x=1 \Rightarrow y=0 \Rightarrow A(1,0)$ $y = x^2 - x \Rightarrow x=2 \Rightarrow y=2 \Rightarrow B(2,2)$ $\quad f(x) = -2+(\frac{1}{2})^{Ax+B}$ از نقاط A و B می‌گذرد $\begin{cases} -2+(\frac{1}{2})^{A+B} = 0 \Rightarrow (\frac{1}{2})^{A+B} = 2 \Rightarrow A+B=-1 \\ -2+(\frac{1}{2})^{2A+B} = 2 \Rightarrow (\frac{1}{2})^{2A+B} = 4 \Rightarrow 2A+B=-2 \end{cases}$ $\Rightarrow$ از حل دستگاه معادله نتیجه می‌گیریم $A=-1,\ B=0 \Rightarrow f(3) = -2+(\frac{1}{2})^{-3} = -2+8 = \boxed{6}$	۶
۲	$m(t) = m_0(\frac{8}{9})^{\frac{t}{1}} \Rightarrow \frac{1}{4}m_0 = m_0(\frac{8}{9})^t \Rightarrow (\frac{8}{9})^t = \frac{1}{4}$ $\log_5(\frac{8}{9})^t = \log_5\frac{1}{4} \Rightarrow t\log_5(\frac{8}{9}) = -\log_5 4$ $\log_3 5 = 1.4 = \frac{14}{10} = \frac{7}{5} \Rightarrow \log_5 3 = \frac{5}{7}$ $\log_2 5 = 2.4 = \frac{24}{10} = \frac{12}{5} \Rightarrow \log_5 2 = \frac{5}{12}$ $t\log_5(\frac{8}{9}) = -\log_5 4 \Rightarrow t(\log_5 8 - \log_5 9)$ $\quad 3\log_5 2 \quad 2\log_5 3$ $= -(\log_5 2 + \log_5 2)$ $\Rightarrow t(3\times\frac{5}{12} - 2\times\frac{5}{7}) = -(\frac{5}{12}+\frac{5}{7})$ (ادامه در بالا)	۷
۲	$m(t) = m_0(\frac{7}{8})^{\frac{t}{7}} \Rightarrow \frac{1}{7}m_0 = m_0(\frac{7}{8})^{\frac{t}{7}} \Rightarrow (\frac{7}{8})^{\frac{t}{7}} = \frac{1}{7}$ $\log_2(\frac{7}{8})^{\frac{t}{7}} = \log_2(\frac{1}{7}) \Rightarrow \frac{t}{7}\log_2(\frac{7}{8}) = \log_2(\frac{1}{7})$ $\frac{t}{7}(\log_2 7 - \log_2 8) = -\log_2 7 \Rightarrow \log_7 2 = 0.4 = \frac{4}{10} = \frac{2}{5} \Rightarrow \log_2 7 = \frac{5}{2}$ $\frac{t}{7}(\log_2 7 - 3\log_2 2) = -\log_2 7$ $\quad \log_2 3 = 1.6 = \frac{16}{10} = \frac{8}{5} \Rightarrow \log_3 2 = \frac{5}{8}$ $\Rightarrow \frac{t}{7}(\frac{5}{2} - 3\times\frac{5}{8}) = -\frac{5}{2} \Rightarrow \frac{t}{7}(\frac{40-45}{24}) = -\frac{5}{2}$ (ادامه در پایین)	۸
۲	$f(t) = A(\frac{96}{100})^t \Rightarrow \frac{A}{3} = A(\frac{96}{100})^t \Rightarrow (\frac{96}{100})^t = \frac{1}{3}$ $\Rightarrow \log(\frac{96}{100})^t = \log\frac{1}{3} \Rightarrow t(\log 96 - \log 100) = -\log 3$ $96 = 2^5 \times 3 \Longrightarrow t(\log 2^5 + \log 3 - 2) = -\log 3$ $\Rightarrow t(5(0.3) + 0.48 - 2) = -0.48$ $= t(1.5 + 0.48 - 2) = -0.48 \Rightarrow -0.02t = -0.48 \Rightarrow \boxed{t = 24}$	۹
۱,۷۵	الف) $f(x) = 9^{\log_3 x} = x^{\log_3 9} = x^2$ $D_f = (0, +\infty)$  ب) $f(x) = \log x^2 = 2\log_{10} x$ $D_f = (0, +\infty)$ $D = \mathbb{R} - \{0\}$  x: 1, 10, 100 y: 0, 2, 4	۱۰

ادامه ۸

$\frac{t}{7}\left(\frac{-5}{24}\right) = \frac{-5}{2} \Rightarrow \frac{t}{56} = 1 \Rightarrow \boxed{t = 56}$