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

۱

$1-\log_c^{(ax+b)}=y \Rightarrow b+c=-\frac{3}{2} \Rightarrow x=0\ y=2 \Rightarrow 1-\log_c^{-b}=2 \Rightarrow \log_c^{-b}=-1 \Rightarrow -b=\frac{1}{c} \Rightarrow b=-\frac{1}{c}$

$\Rightarrow c-\frac{1}{c}=-\frac{3}{2} \Rightarrow \frac{c^2-1}{c}=-\frac{3}{2} \Rightarrow -2c=2c^2-2 \Rightarrow 2c^2+3c-2=0 \Rightarrow \frac{1}{2}(2c+3)(2c-1)=0 \Rightarrow c=-2 \quad c=\frac{1}{2}$ (غ ق) (ق ق)

$\Rightarrow 1-\log_{\frac{1}{2}}^{(ax-(-2))} \Rightarrow 1-\log_{\frac{1}{2}}^{ax+2}=y \Rightarrow x=11a \Rightarrow y=0 \Rightarrow 1-\log_{\frac{1}{2}}^{-11a+2}=0 \Rightarrow \log_{\frac{1}{2}}^{-11a+2}=1$

$\Rightarrow -11a+2=\frac{1}{2} \Rightarrow -11a=-\frac{3}{2} \Rightarrow a=1 \Rightarrow (a+c)b \Rightarrow (1+\frac{1}{2})(-2) \Rightarrow \frac{3}{2}x(-2)=-3$

۲

$f(x)=1+c\times 3^{ax+bx} \Rightarrow x=0 \Rightarrow y=\frac{7}{3} \Rightarrow 1+c\times 3^{a}=\frac{7}{3} \Rightarrow c\times 3^{a}=-\frac{1}{3} \quad x=1 \Rightarrow y=0 \Rightarrow 1+c\times 3^{a+b}=0$

$\Rightarrow 3^{a+b}\times c=-1 \Rightarrow -\frac{1}{3}\times 3^{b}=-1 \Rightarrow 3^{b}=3 \Rightarrow f(-1)=1+3^{a-b}\times c \Rightarrow f(-1)=1+\frac{3^{a}}{3^{b}}$

$\Rightarrow 1+\frac{-\frac{1}{3}}{-\frac{2}{3}} \Rightarrow 1+\frac{1}{2}=\frac{3}{2}$

۳

$c+\log_{\square}^{(ax+b)}=y \Rightarrow x=0 \Rightarrow c+\log_{\square}^{b}=2$

$c+\log_{\square}^{(ax+b)}=y \Rightarrow x=214 \Rightarrow c+\log_{\square}^{214a+b}=0 \Rightarrow \log_{\square}^{214a+b}-\log_{\square}^{b}=-2 \Rightarrow \log_{\square}^{\frac{214a+b}{b}}=-2$

$\Rightarrow \frac{214a+b}{b}=\frac{1}{25} \Rightarrow 50a+25b=b \Rightarrow 50a=-24b \Rightarrow \frac{a}{b}=-\frac{1}{50}$

۴

$\log_{\square}^{(|x^2-2|-x)} \Rightarrow |x^2-2|-x>0 \Rightarrow |x^2-2|>x \Rightarrow x^2-2>x \Rightarrow x^2-x-2>0 \Rightarrow (x-2)(x+1)$

$+\ -\ +$ (۲ و −۱) $\Rightarrow I=(-\infty,-1)\cup(2,+\infty)$ و $x^2-2<-x \Rightarrow x^2-2+x<0 \Rightarrow (x+2)(x-1)<0$

$+\ -\ +$ (−۲ و ۱) $\Rightarrow II=(-2,1) \Rightarrow I\cap II \Rightarrow (-2,-1)$

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$f(x)=2+2^{b-ax} \Rightarrow x=1 \Rightarrow y=-1-2+8=5 \Rightarrow 2+2^{b-a}=8 \Rightarrow 2^{b-a}=6 \Rightarrow 2^{b-a}=2 \Rightarrow b-a=1$

$x=-1 \Rightarrow y=10 \Rightarrow 2+2^{b+a}=10 \Rightarrow 2^{b+a}=8 \Rightarrow b+a=3$

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

$f(x) = -2 + \left(\frac{1}{4}\right)^{Ax+B} \Rightarrow x=1 \Rightarrow -2 + \left(\frac{1}{4}\right)^{A+B} = 0 \Rightarrow \left(\frac{1}{4}\right)^{A+B} = 2 \Rightarrow A+B = -1$

$x=2 \Rightarrow y=2 \Rightarrow -2 + \left(\frac{1}{4}\right)^{2A+B} = 2 \Rightarrow \left(\frac{1}{4}\right)^{2A+B} = 4 \Rightarrow 2A+B = -2$

$\begin{cases} A+B=-1 \\ 2A+B=-2 \end{cases} \Rightarrow A=-1 \quad B=0 \Rightarrow f(x) = -2 + \left(\frac{1}{4}\right)^{-x} \Rightarrow f(2) = -2 + \left(\frac{1}{4}\right)^{-2} \Rightarrow y = -2+8 \Rightarrow y=6$ ۶

مقداری از ید خنثی = $A - \frac{1}{9}A = A\left(1-\frac{1}{9}\right) = \frac{8}{9}A \Rightarrow \frac{8}{9}A - \frac{1}{9}\left(\frac{8}{9}\right)A \Rightarrow \frac{8}{9}A\left(\frac{8}{9}\right) \Rightarrow \left(\frac{8}{9}\right)^2 A$

$\Longrightarrow \left(\frac{8}{9}\right)^n \times A \Rightarrow \left(\frac{8}{9}\right)^2 \times A = \frac{1}{4}A \Rightarrow \left(\frac{8}{9}\right)^n = \frac{1}{4} \Rightarrow n = \log_{\frac{8}{9}} \frac{1}{4}$

$\Rightarrow -\log_{\frac{8}{9}} 4 \Rightarrow -\left(\log_{\frac{8}{9}} 2^2\right) \Rightarrow -\left(\frac{1}{\log_2 \frac{8}{9}} + \frac{1}{\log_3 \frac{8}{9}}\right) \Rightarrow$ ۷

چون می‌توان نمی‌دانم

در پرسش‌های چهارگزینه‌ای نیازی به ادامه نیست

مقداری از ید خنثی = $A - \frac{12/5}{100}A = \frac{87/5}{100}A \Rightarrow \frac{87/5}{100}A - \frac{12/5}{100}\left(\frac{87/5}{100}A\right) \Rightarrow \frac{87/5}{100}A\left(1-\frac{12/5}{100}\right)$

$\Rightarrow \left(\frac{87/5}{100}\right)^2 \times A \Rightarrow n = \text{چند بار} \Rightarrow \left(\frac{87/5}{100}\right)^n \times A \Rightarrow \left(\frac{7}{8}\right)^n \times A = \frac{1}{7}A \Rightarrow \left(\frac{7}{8}\right)^n = \frac{1}{7}$

$\Rightarrow n = \log_{\frac{7}{8}} \frac{1}{7} \Rightarrow -\frac{\log_2 7}{\log_2 \frac{7}{8}} \Rightarrow -\frac{\log_2 7}{\log_2 7 - 3} \Rightarrow \log_2 7 \Rightarrow \frac{\log_3 7}{\log_3 2} \Rightarrow \frac{\log_2 3}{\log_7 3} = \frac{1/6}{0/4} = \frac{8}{3}$

$\Rightarrow \frac{-\frac{8}{3}}{\frac{8}{3}-3} \Rightarrow \frac{-\frac{8}{3}}{-\frac{1}{3}} \Rightarrow 8$ تعداد $\Rightarrow 87/5 = 0/4$ روز

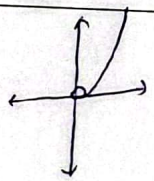
$100 \text{ Lit} \xrightarrow[\text{ساعت}]{} -\frac{6}{100} \text{ gr} \Rightarrow 100\left(\frac{96}{100}\right) \Rightarrow 100\left(\frac{96}{100}\right) - \frac{6}{100}(100)\left(\frac{96}{100}\right) \Rightarrow 100\left(\frac{96}{100}\right)^n$

$n = \text{زمان} \Rightarrow 100\left(\frac{96}{100}\right)^n = \frac{1}{3}(100) \Rightarrow n = \log_{\frac{96}{100}} \frac{1}{3} \Rightarrow -\log_{\frac{96}{100}} 3$

$\Rightarrow -\frac{\log 3}{\log 96 - 2} \Rightarrow -\frac{\log 3}{\log 2^5 + \log 3 - 2} \Rightarrow \frac{-\frac{47}{100}}{\frac{-2}{100}} = 24$ روز ۹

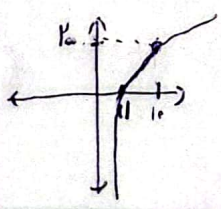
الف) $y = 9\log_2^{ax} \Rightarrow x^{\log_2^9} \to x^2$

$\Rightarrow a > 0$



البته باید توجه داشت که $\log$ سر رعایت شود

ب) $y = \log_{ax}^2 \Rightarrow 2\log_{ax}$



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مقدار اولیه ماده = A

$\Rightarrow A - \frac{1}{9}A \Rightarrow A(1-\frac{1}{9}) = \frac{8}{9}A$

$\Rightarrow \frac{8}{9}A - \frac{1}{9}(\frac{A}{9})A \Rightarrow \frac{8}{9}A(1-\frac{1}{9}) \Rightarrow (\frac{8}{9})^2 A$

$\Rightarrow n = \text{سال} \Rightarrow (\frac{8}{9})^n A$

$\Rightarrow (\frac{8}{9})^n A = \frac{1}{9}A \Rightarrow (\frac{8}{9})^n = \frac{1}{9} \Rightarrow n = \log_{\frac{8}{9}} \frac{1}{9}$

$\Rightarrow -\frac{\log_3 9}{\log_3 \frac{8}{9}} \Rightarrow \frac{1+\log_3 2}{\log_3 8 - 2} \Rightarrow -\frac{1+\frac{V}{12}}{\frac{21}{12}-2}$ ①

① $\log_3^2 \Rightarrow \frac{\log_3^2}{\log_3^3} \Rightarrow \frac{\log_5^3}{\log_5^2} \Rightarrow \frac{14}{24} = \frac{V}{12}$

$\Rightarrow -\frac{1+\frac{V}{12}}{\frac{21}{12}-2} \Rightarrow \frac{19}{3} \times 60 = 380 \min$