نام و نام خانوادگی: سیدرضا لستانیان — کلاس: یازدهم تجربی B — شماره تکلیف: ۲۵

$1-\log_c^{(ax-b)}=y \Rightarrow$ جایگذاری $\begin{cases} \rightarrow ۲=1-\log_c^{-b} \Rightarrow c^{-1}=-b \Rightarrow b=-\frac{1}{c} \\ \rightarrow ۹=1-\log_c^{-۴a-b} \end{cases} \rightarrow b=-۲$ **۱**

$\Rightarrow -\frac{1}{c}+c=-\frac{۳}{۲} \Rightarrow c^۲+\frac{۳}{۲}c-1=0 \Rightarrow c=\frac{1}{۲}, -۲ \times \quad c>0$

$\Rightarrow 1-\log_{\frac{1}{۲}}^{-\frac{۳}{۲}a+۲}=0 \Rightarrow -\frac{۳}{۲}=-\frac{۳}{۲}a \Rightarrow a=1 \Rightarrow (a+c)b=(1+\frac{1}{۲})-۲=\boxed{-۳}$

$f(x)=1+c(۳^{a+bx}) \Rightarrow$ جایگذاری $\begin{cases} \rightarrow \frac{۲}{۳}=1+c\times ۳^{a} \Rightarrow c\times ۳^{a}=-\frac{1}{۳} \\ \rightarrow 0=1+c(۳^{a+b}) \Rightarrow 1+\underbrace{c\times ۳^{a}}_{-\frac{1}{۳}}\times ۳^{b} \end{cases}$ **۲**

$\Rightarrow b=1$

$f(-1)=1+c\times ۳^{a-b} \Rightarrow 1+\underbrace{c(۳^{a})}_{-\frac{1}{۳}}\times\frac{1}{۳} \Rightarrow 1-\frac{1}{۹}=\boxed{\frac{۸}{۹}}$

$y=c+\log_۵^{(ax+b)} \Rightarrow$ جایگذاری $\begin{cases} \rightarrow c+\log_۵^{b}=۲ \\ \rightarrow \log_۵^{۲,۴a+b}=-c \end{cases} \Rightarrow -\log_۵^{۲,۴a+b}+\log_۵^{b}=۲$ **۳**

$\Rightarrow \log_۵^{\frac{b}{۲,۴a+b}}=۲ \Rightarrow \frac{۲,۴a+b}{b}=\frac{1}{۲۵} \Rightarrow \frac{۲,۴a}{b}=-\frac{۲۴}{۲۵} \Rightarrow \boxed{\frac{a}{b}=-\frac{1}{۵}}$

$|x^۲-۲|-x>0 \Rightarrow \begin{cases} x^۲-۲>x \Rightarrow x^۲-x-۲>0 \\ x^۲-۲<-x \Rightarrow x^۲+x-۲<0 \end{cases}$ **۴**

	-1		۲		
$+$		$-$		$+$	I

	-۲		1		
$+$		$-$		$+$	II

$I\cup II=\boxed{\mathbb{R}-(1,۲)=D_f}$

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

$f^{-1}(10)=-1 \Rightarrow f(-1)=10 \Rightarrow ۲+۲^{b+a}=10 \Rightarrow b+a=۳ \quad \Rightarrow b=۲,\ a=1$ **۵**

$\Rightarrow ۲(۲)-1=\boxed{۳}$

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

$$\Rightarrow A=-1,\ B=0 \Rightarrow f(3) = -2+\left(\frac{1}{2}\right)^{-3} \Rightarrow -2+8 = \boxed{6}$$ ۶

$$m = m_0\left(\frac{8}{9}\right)^t \Rightarrow \frac{1}{6}m_0 = m_0\left(\frac{8}{9}\right)^t \Rightarrow \log_5 \frac{1}{6} = \log_5\left(\frac{8}{9}\right)^t$$

$$\Rightarrow -\log_5 6 = t\log_5 \frac{8}{9} \Rightarrow -\left(\log_5 2 + \log_5 3\right) = t\left(\log_5 2^3 - \log_5 3^2\right)$$ ۷

($\frac{1}{2.4}$, $\frac{1}{1.6}$, $\frac{3}{2.4}$, $\frac{2}{1.6}$)

$$\log_5 2 = \frac{1}{2.4} \quad \log_5 3 = \frac{1}{1.6} \quad \Rightarrow -5t = -\frac{95}{3} \Rightarrow t = \frac{19}{3} \Rightarrow \frac{19}{3}\times 60 = \boxed{380\ min}$$

$$\frac{12.5}{100} = \frac{1}{8} \Rightarrow \frac{1}{7}m_0 = m_0 \times \left(\frac{7}{8}\right)^{\frac{t}{7}} \Rightarrow \frac{1}{7} = \left(\frac{7}{8}\right)^{\frac{t}{7}}$$

$$\log_3 \frac{1}{7} = \log_3 \left(\frac{7}{8}\right)^{\frac{t}{7}} \Rightarrow -\log_3 7 = \frac{t}{7}\log_3 \frac{7}{8} \Rightarrow -\log_3 7 = \frac{t}{7}\left(\log_3 7 - \log_3 2^3\right)$$ ۸

($\frac{10}{6}$, $\frac{3}{1.6}$, $\frac{10}{6}$)

$$\log_3 2 = \frac{1}{1.6} \quad \log_3 7 = \frac{10}{6} \quad \Rightarrow \frac{t}{7}\times\frac{-5}{24} = -\frac{5}{3} \Rightarrow \boxed{t=56}$$

$$100-4=96 \Rightarrow \frac{1}{3}m_0 = m_0\times\left(\frac{96}{100}\right)^t \Rightarrow \frac{1}{3} = \left(\frac{96}{100}\right)^t$$

$$\Rightarrow \log\frac{1}{3} = \log\left(\frac{96}{100}\right)^t \Rightarrow -\log 3 = t(\log 96 - \log 100)$$ ۹

$$-\frac{48}{100} = t\left(5\log 2 + \log 3 - 2\right) \Rightarrow -\frac{2}{100}t = -\frac{48}{100} \Rightarrow \boxed{t=24}$$

(0.3, 0.48)

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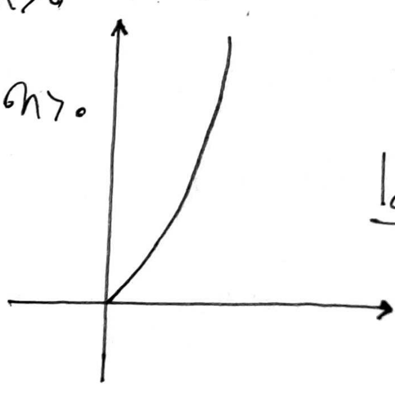
الف)

$$y = 9^{\log_3 x} \quad D_f = x>0$$

$$y = x^{\log_3 9} = x^2 \quad x>0$$



ب)

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