۱-

$f(0)=2 \to 1-\log_c^{-b}=2 \to \log_c^{-b\infty}=-1$

$c^{-1}=-b \to b=\frac{-1}{c}$ $\quad b+c=\frac{-3}{2} \xrightarrow{b=\frac{-1}{c}} \frac{-1}{c}+c=\frac{-3}{2}$

$f(-1/5)=0 \to 1-\log_{\frac{1}{2}}^{(-1/5a+2)}=0 \longrightarrow \log_{\frac{1}{2}}^{(-1/5+2)}=1$

$-1/5a+2=\frac{1}{2} \to a=1$ $\quad b(a+c)=-2\left(1+\frac{1}{2}\right) \longrightarrow -3$

۲-

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

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

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

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

$f(-1)=1+\frac{1}{3}\left(-\frac{1}{3}\right)=\frac{\Delta}{9}$ $\quad \left(\frac{\Delta}{9}\right)$

۳-

$f(0)=2 \to c+\log_5^{b}=2$

$f(2/4)=0 \to c+\log_5^{(2/4a+b)}=0$

$c+\log_5^{b}-\left(c+\log_5^{2/4a+b}\right)=2$

$\log_5^{b}-\log_5^{2/4a+b}=2 \to \log_5^{\frac{b}{2/4a+b}}=2$

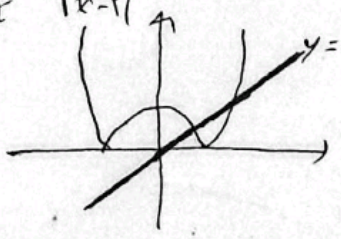
$\frac{b}{2/4a+b}=25 \to b=90a+225b \to$

$90a=-224b \to \frac{a}{b}=\frac{-224}{90}=\frac{-2}{5}$

۴-

$|x^2-2|-x>0 \to |x^2-2|>x$

$y_2=|x^2-2|$ ، $y_1=x$



$(-\infty,1)\cup(2,+\infty)$

۵-

$f(x)=g(x) \xrightarrow{x=1} f(1)=g(1) \Rightarrow f(1)=4$

$2+2^{b-a}=4 \to 2^{b-a}=2^1 \to b-a=1$

$b+a=2$

$b-a=1$, $b+a=2$ $\Rightarrow \begin{cases} b=2 \\ a=1 \end{cases}$

$f(-1)=2+2^{b+a}=10 \to 2^{b+a}=8$

$2b-a \Rightarrow 2(2)-1=(3)$

۶-

$-2+\left(\frac{1}{2}\right)^{Ax+B}=x^2-x$

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

$x=2: -2+\left(\frac{1}{2}\right)^{2A+B}=2^2-2=2 \to 2^{-2A-B}=2^2$ $\begin{matrix} \nearrow A=-1 \\ \longrightarrow B=0 \end{matrix}$

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

۹-

$100, 100(1-\frac{4}{100}), 100(1-\frac{4}{100})^2$

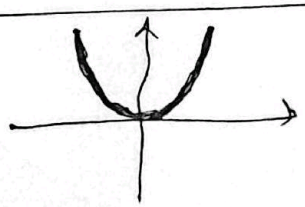
$100(1-\frac{4}{100})^n = \frac{1}{2} \times 100 \rightarrow (\frac{24}{25})^n = \frac{1}{2}$

$n = \log_{\frac{24}{25}} \frac{1}{2} = \frac{-\log 2}{\log \frac{24}{25}} = \frac{-\log 2}{\log 24 - \log 25}$

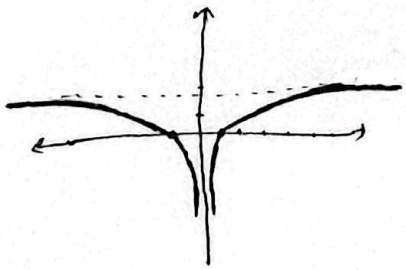
$\frac{-\log 2}{5\log 2 + \log 3 - 2} = \frac{-0.48}{5\times 0.3 + 0.48 - 2} = 24$ ← غلظت $\frac{1}{2}$ ← ۲۴ روز

۱۰-

$y = x^{\log_3 9} \rightarrow y = x^2$



x	1	10
y	0	2



x	-10	-1
y	2	0

$x^2 > 0$