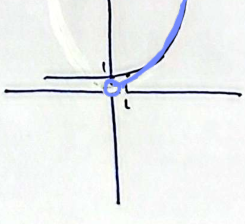
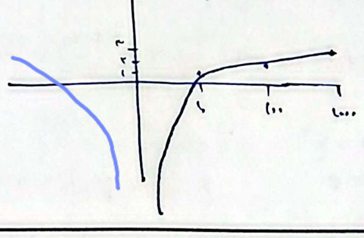
۱۸,۵

نام و نام خانوادگی ....جیران معالی....... پاسخنامه تشریحی تکلیف شماره .... کلاس	
جایگذاری $\to 2 = 1 - \log_c^{-b} \to \log_c^{-b} = 1 \to -b = \frac{1}{4} \to \begin{cases} b+c = -\frac{3}{2} \\ b \times c = -1 \end{cases}$ $b = -2$ $C = 1/2$ $0 = 1 - \log_c^{-120a-b} \to \log_c^{-120a-b} = 1 \to -120a - b = c$ $a = 1$ $(a+c) \times b (1 + \frac{1}{2}) \times 4 = -3$ (۲)	۱
جایگذاری $\begin{cases} (1, 0) \to 0 = 1 + c \times 3^{a+b} \\ (0, \frac{2}{3}) \to 1 + c \times 3^{a} = \frac{2}{3} \to c \times 3^{a} = -\frac{1}{3} \end{cases}$ $\to 1 - \frac{1}{3} \times 3^{b} = 0$ $b = 1$ $f(-1) \to 1 + c \times 3^{a-b} \to 1 - \frac{1}{3} \times 3^{-1} = \frac{8}{9}$ (۲)	۲
جایگذاری $\to \begin{cases} 2 = c + \log_5^{b} \\ 0 = c + \log_5^{2.4a+b} \end{cases} \Rightarrow \log_5 \frac{2.4a+b}{b} = -2$ $25 = \frac{b}{2.4a+b}$ $2.4a + b = \frac{1}{25} b \to 2.4a = -\frac{24}{25} b$ $\frac{a}{b} = -\frac{2}{5}$ (۲)	۳
$\lvert x^2 - 2 \rvert - x > 0 \to \lvert x^2 - 2 \rvert > x \to x^2 - 2 > x$, $x^2 - 2 < -x$ $x^2 - x - 2 > 0$, $(x+1)(x-2)$: -1 , 2 : + − + (۱) (۱)∩(۲) $D = (-\infty, -2) \cup (2, +\infty)$ $(-\infty, 1)$ $x^2 + x - 2 < 0$, $(x-1)(x+2)$: -2 , 1 : + − + (۲) (۱,۷۵)	۴
جایگذاری $\to 2 + 2^{b-a} = 4 \to 2^{b-a} = 2$ $b - a = 1$ $f^{-1}(10) = 1 \to f(1) = 10 \Rightarrow 2 + 2^{b+a} = 10 \to 2^{b+a} = 8$ $b + a = 3$ $\begin{cases} b - a = 1 \\ b + a = 3 \end{cases} \to 2b = 4$, $b = 2$, $a = 1$ $2b - a = 4 - 1 = 3$ (۲)	۵

جایگذاری $x=1 \rightarrow -2+(\frac{1}{2})^{A+B}=0 \rightarrow (\frac{1}{2})^{A+B}=2$ $x=2 \rightarrow -2+(\frac{1}{2})^{2A+B}=2 \rightarrow (\frac{1}{2})^{2A+B}=4$ $\begin{cases} A+B=-1 \\ 2A+B=-2 \end{cases}$ $A=-1$, $B=0$ $f(3)=-2+(\frac{1}{2})^{-3}=6$ ۲	۶
$f(t)=A_0(\frac{8}{9})^{\frac{t}{40}}$ / $A_t=\frac{8}{9}A_0 \rightarrow A_0\times(\frac{8}{9})^{\frac{t}{40}}=\frac{A_0}{6} \rightarrow (\frac{8}{9})^{\frac{t}{40}}=\frac{1}{6}$ لگاریتم $\frac{t}{40}=\frac{\log\frac{1}{6}}{\log\frac{8}{9}}=\frac{-(\log 2+\log 3)}{3\log 2-2\log 3} \xrightarrow{\div \log 2} -1-\frac{\log 3}{\log 2}\times\frac{1}{3-2\log_2 3}$ $\frac{\log\frac{9}{2}}{\log\frac{5}{3}}=\frac{0.4}{1.4} \rightarrow \log_2 3=\frac{12}{7}$ $\quad \frac{t}{40} \rightarrow \frac{-1-\frac{12}{7}}{-\frac{24}{7}+3}=\frac{19}{7}\times\frac{7}{3}=\frac{19}{3}=\frac{t}{40}$ $\quad t=20\times 19$, $t=380$ ۲	۷
$\frac{100}{100}-\frac{12.5}{100}=\frac{87.5}{100}=\frac{7}{8}$ $\quad A(t)=A_0(\frac{7}{8})^{t/7}=\frac{1}{7}A_0 \quad (\frac{7}{8})^{t/7}=\frac{1}{7}$ $\rightarrow \log_3(\frac{7}{8})^{\frac{t}{7}}=\log_3\frac{1}{7} \rightarrow \frac{t}{7}\log_3\frac{7}{8}=\log_3\frac{1}{7} \rightarrow \frac{t}{7}(\log_3 7-\log_3 8)=\log_3\frac{1}{7}$ $\frac{t}{7}(\frac{5}{3}-3\times\frac{5}{8})=-\frac{5}{3} \quad \frac{t}{7}(-\frac{5}{24})=-\frac{5}{3} \quad t=56$ ۲	۸
$a_n=a\cdot(\frac{100}{100}-\frac{4}{100})^n=\frac{1}{3}a \rightarrow (\frac{96}{100})^n=\frac{1}{3}$ $\log(\frac{96}{100})^n=\log\frac{1}{3} \rightarrow n(\log 96-\log 100)=\log 1-\log 3 \rightarrow n(\log 2^5\times 3-2)=-\log 3$ $n(5\log 2+\log 3-2)=-0.48 \rightarrow n=24$ $(0.32-2)$ ۲	۹
الف) $9^{\log_3 x} \rightarrow x^{\log_3 9} \Rightarrow x^2$ $\quad D_f=(0,+\infty)$  ب) $\log_{10} x^2 \Rightarrow 2\log_{10} x$ $\quad D=\mathbb{R}-\{0\}$ x: 10, 100, 1000 — y: 2, 4, 6  ۰,۷۵	۱۰