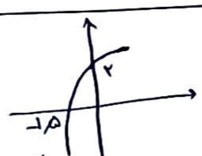
نام و نام خانوادگی: فرزان شیرانی .... پاسخنامه تشریحی تکلیف شماره ۲۵ کلاس یازدهم ....

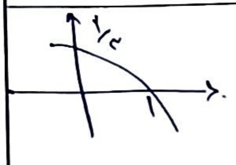
$y = 1 - \log_c^{ax-b}$, $b+c = -\frac{3}{2}$



$1-\log_c^{a(0)-b} = 2 \to \log_c^{-b} = -1 \to -b = \frac{1}{c} \xrightarrow{b+c=-\frac{3}{2}} b-\frac{1}{b} = -\frac{3}{2}$ ↗ $b=-2 \to c = \frac{1}{2}$ ✓ ↘ $b = \frac{1}{2} \to c = -2$ ✗ غق

$\to y = 1-\log_{1/2}^{ax+2} \to 0 = 1-\log_{1/2}^{-1.5a+2} \to \frac{1}{2} = -1.5a+2 \to a=1$

$\to a=1,\ b=-2,\ c=\frac{1}{2} \to (a+c)b \to \frac{3}{2}\times -2 = -3$



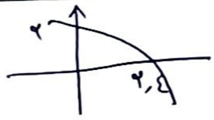
$f(x) = 1 + c\times 3^{a+bx}$

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

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

$\to f(-1) = 1 + c\times 3^{a-b} = 1 + \frac{c\times 3^a}{3} = \frac{8}{9}$

$y = c + \log_5^{(ax+b)}$

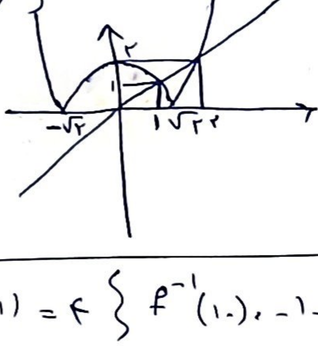


$2 = c + \log_5^{b}$, $0 = c + \log_5^{2.4a+b} \xrightarrow{\ominus} -2 = \log_5^{\frac{2.4a+b}{b}}$ ۳

$\to \frac{1}{25} = \frac{2.4a}{b}+1 \to -\frac{24}{25} = 2.4\frac{a}{b} \to \frac{a}{b} =$

$f(x) = \log_4^{(|x^2-2|-x)} \to D_f\{x \mid |x^2-2|-x>0\}$

$|x^2-2|-x > 0 \to |x^2-2| > x \to$ ۴



$\to x \in (-\infty\ \ 1) \cup (2\ \ +\infty)$

$f(x) = 2 + 2^{b-ax}$ $\quad g(x) = x^2-3x+8 \to g(1) = 4 \Big\{ f^{-1}(10) = -1 \to f(-1) = 10$

$f(1) = 2+2^{b-a} = 4 \to 2^{b-a} = 2 \to b-a = 1$ ۵

$f(-1) = 2+2^{b+a} = 10 \to 2^{b+a} = 8 \to b+a = 3$ $\Big\} \to a=1,\ b=2$

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

$f(x) = -2 + (\frac{1}{2})^{Ax+B} \qquad y = x^2 - x \longrightarrow (1,0) , (2,2)$

$f(1) = -2 + (\frac{1}{2})^{A+B} = 0 \longrightarrow (\frac{1}{2})^{A+B} = 2 \longrightarrow A+B = -1$ ۶

$f(2) = -2 + (\frac{1}{2})^{2A+B} = 2 \longrightarrow (\frac{1}{2})^{2A+B} = 4 \longrightarrow 2A+B = -2 \; \Big\} \longrightarrow A = -1 , \; B = 0$

$\longrightarrow f(3) = -2 + \frac{1}{2}^{-1(3)+0} = -2 + 8 = 6$

$\log_2 5 = 2,4 \longrightarrow \log_5 2 = \frac{10}{24} \quad , \quad \log_3 5 = 1,4 \longrightarrow \log_5 3 = \frac{10}{14}$

$(\frac{8}{9})^t = \frac{1}{4} \longrightarrow t = \log_{\frac{8}{9}} \frac{1}{4} \Rightarrow t = \frac{\log_5 \frac{1}{4}}{\log_5 \frac{8}{9}} = \frac{-\log_5 2 - \log_5 2}{3\log_5 2 - 2\log_5 3} =$ ۷

$\frac{-\frac{10}{24} - \frac{10}{14}}{\frac{30}{24} - \frac{20}{14}} = \frac{-380}{-60} = \frac{19}{3}$ ساعت $\longrightarrow \frac{19}{3} \times 60 = 380 \; min$

$m_1 (\frac{87,5}{100})^t = m_2 \longrightarrow (\frac{87,5}{100})^t = \frac{1}{7} \longrightarrow t = \log_{\frac{87,5}{100}} \frac{1}{7} = \log_{\frac{7}{8}} \frac{1}{7}$

$(\log_2 3 = 1,6 \longrightarrow \log_3 2 = \frac{1}{1,6} \; , \; \log_7 3 = ,6 \longrightarrow \log_3 7 = \frac{1}{,6})$ ۸

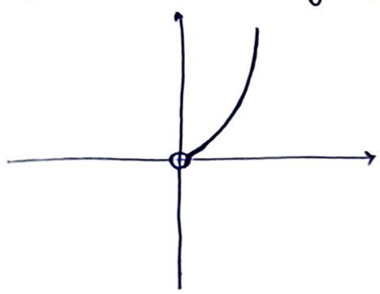
$\longrightarrow t = \frac{\log_3 \frac{1}{7}}{\log_3 \frac{7}{8}} = \frac{-\log_3 7}{\log_3 7 - 3\log_3 2} = \frac{-\frac{10}{6}}{\frac{10}{6} - \frac{30}{16}} = \frac{-\frac{10}{6}}{-\frac{25}{96}} = \frac{96 \times 1}{2 \times 6} = 8$ هفته $\longrightarrow$ ۵۶ روز

هر روز ۴ درصد داشته $\longrightarrow$ علامت $\frac{96}{100}$ برابری شود $\longrightarrow (\frac{96}{100})^t = \frac{1}{2} \longrightarrow t = \log_{\frac{96}{100}} \frac{1}{2}$

$\longrightarrow t = \frac{\log \frac{1}{2}}{\log \frac{96}{100}} = \frac{-\log 2}{\log 96 - 2\log 10} = \frac{-,48}{\log 32 + \log 3 - 2} = \frac{-,48}{1,5 + ,48 - 2} = \frac{-,48}{-,02} = 24$ ۹

$\longrightarrow t = 24$

الف) $y = 9^{\log_3 x} \longrightarrow y = x^{\log_3 9} = x^2$



ب) $y = \log x^2 = 2\log x$ ۱۰