Date: Sub: به نام خدا کلاس مجازی

۱)

$(0,2) \to 2 = 1 - \log_c^{-b} \longrightarrow c = \frac{-1}{b}$

$(-1/5, 0) \to 0 = 1 - \log_c^{-1/5a-b} \longrightarrow c = -1/5a - b \longrightarrow \frac{1}{2} + 2 = -\frac{3}{2}a \to$ (ac)

$b - \frac{1}{b} = \frac{-3}{2} \to 2b^2 + 3b - 2 = 0 \to b = \frac{-3 \pm \sqrt{9+16}}{4}$ — $\frac{1}{2}$ غ ق ق، -2 — $c = \frac{1}{2}$

$\frac{3}{2}x - 2 = \boxed{-3}$

۲)

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

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

۳)

$f(8) = 0 \to c + \log_5^{2/4a+b} = 0 \to 5^{-c} = 2/4a + b$

$f(0) = 2 \to c + \log_5^b = 2 \to b = 5^{2-c} \Rightarrow 2/4a = 5^{-c} - 5^{2-c}$

$2/4a = 5^{-c}(\cancel{1-25})$ (-24)

$a = -10 \times 5^{-c}$

$\frac{a}{b} = \frac{-10 \times 5^{-c}}{5^{-c} \times 25} = \boxed{-0/4}$

۴)

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

$x^2 - x - 2 = 0$
$(x-2)(x+1) = 0$ — 2، -1 غ ق ق

$x^2 - 2 + x = 0$
$(x+2)(x-1) = 0$ — -2 غ ق ق، 1

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

۵)

$f(1) = 4$, $g(1) = 4 \longrightarrow 4 = 2 + 2^{b-a} \longrightarrow b - a = 1$

$\Rightarrow a = 1,\ b = 2 \longrightarrow \boxed{4 - 1 = 3}$

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

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

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

$f(3)=-2+\underbrace{(\frac{1}{2})^{-3}}_{8}=\boxed{6}$

$\frac{1}{9}m_0=m_0(\frac{8}{9})^n \to -\log_3^9=n(3-\log_3^2-2) \to -1(1+\frac{7}{12})=n(\frac{7}{4}-2)$ (۷

$\log_3^2=\frac{\log_5^2}{\log_5^3}=\frac{\frac{1}{2/3}}{\frac{1}{1/4}}=\frac{7}{12}$ $\quad n=\frac{19}{3}h \to 380'$

$(\frac{7}{8})^{\frac{n}{7}}m_0=\frac{1}{7}m_0 \to \frac{n}{7}(\log_2^7-3)=-\log_2^7 \quad \frac{n}{7}(\frac{8}{3}-3)=-\frac{8}{3}$ (۸

$n=$ ۵۶ روز

$\log_2^7=\frac{\log^7}{\log^2}=\frac{\frac{1}{0/9}}{\frac{1}{1/6}}=\boxed{\frac{8}{3}}$

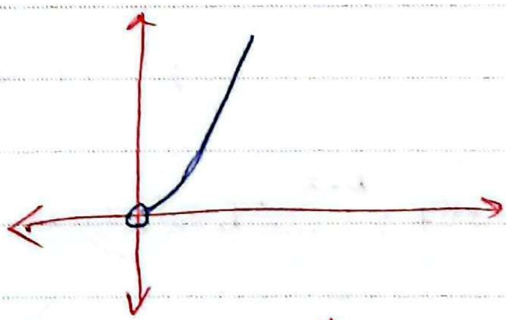
$m(\frac{99}{100})^n=\frac{1}{3}m \to n(\log^{99}-2)=-\log^3$ (۹

$n(\underbrace{5\log^2}_{1/5}+\underbrace{\log^3}_{0/48}-2)=\underbrace{\cancel{-\log^3}}_{-0/48} \to n=$ ۲۴ روز

(۱۰

الف) $y=x^{\log_3^9}=x^2$

$x>0$



ب) $y=\log x^2=2\log x$

$x^2>0 \to x\neq 0$