



$$n=0 \Rightarrow 1 - \log_c^{-b} = r \Rightarrow \log_c^{-b} = -1 \quad (1)$$

$$b = -\frac{1}{c} \quad n = -\frac{r}{r} \Rightarrow 1 - \log_c^{-\frac{r}{r}a-b} = 0$$

$$\Rightarrow \log_c^{-\frac{r}{r}a-b} = 1 \Rightarrow -\frac{r}{r}a = \underbrace{c+b}_{-\frac{r}{r}} \Rightarrow \boxed{a=1}$$

$$c - \frac{1}{c} = -\frac{r}{r} \Rightarrow \frac{c^2 - c}{c} = -\frac{r}{r} \Rightarrow c^2 - \frac{c}{r} = 0$$

$$c = \frac{1}{r} \quad b = -\frac{r}{r} \quad (a+c)b = \left(\frac{r}{r}\right) - r = \boxed{-r}$$

$$n=1 \Rightarrow 1 + c \times r^a + b = 0 \Rightarrow c \times r^a \times r^b = -1 \quad (2)$$

$$n=c \Rightarrow 1 + c \times r^c = \frac{r}{r} \Rightarrow c \times r^c = -\frac{1}{r}$$

$$\frac{c \times r^a \times r^b}{c \times r^c} = \frac{-1}{-\frac{1}{r}} \Rightarrow \boxed{b=1}$$

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

$$m \geq 0 \Rightarrow C + \log_a b = r \Rightarrow \frac{a^r}{a^c} = b \quad (1)$$

$$m = r/\epsilon \Rightarrow C + \log_a^{r/\epsilon a+b} = 0 \Rightarrow \frac{1}{a^c} = r/\epsilon a+b$$

$$\frac{\frac{a^r}{a^c}}{1} = \frac{b}{r/\epsilon a+b} \Rightarrow r/\epsilon a = \frac{b}{r/\epsilon a+b} \Rightarrow$$

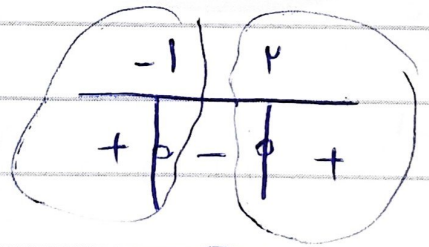
$$\frac{1}{r/\epsilon} = r/\epsilon \frac{a}{b} + 1 \quad r/\epsilon \frac{a}{b} = -\frac{r/\epsilon}{r/\epsilon}$$

$$\boxed{\frac{a}{b} = -\frac{r}{\epsilon}}$$

$$|m^r - r| - m > 0 \quad |m^r - r| > m \Rightarrow m^r - r > m \quad (2)$$

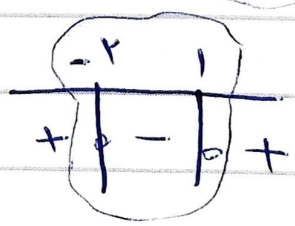
$$\Rightarrow m^r - r < -m$$

$$m^r - m - r > 0$$



نتیجه $\Rightarrow (-r, -1)$

$$m^r + m - r < 0$$



$$m=1 \Rightarrow r + r^{b-a} = \xi \quad r^{b-a} = r \quad \textcircled{a}$$

$$\underline{b-a = 1}$$

$$m=-1 \Rightarrow r + r^{b+a} = 10$$

$$r^{b+a} = 9$$

$$\begin{cases} b-a = 1 \\ b+a = 9 \end{cases}$$

$$\underline{b = 5}$$

$$\underline{a = 1}$$

$$r^{b-a} = \xi \quad \underline{1 = 9}$$

$$m=1 \Rightarrow -r + \frac{1}{r} A+B = 0 \Rightarrow A+B = -1 \quad \textcircled{9}$$

$$m=r \rightarrow -r + \frac{1}{r} rA+rB = r \quad rA+rB = -r$$

$$x-1 \begin{cases} rA+rB = -r \\ A+B = -1 \end{cases}$$

$$\underline{A = -1}$$

$$B = 0$$

$$m=r \Rightarrow -r + \frac{1}{r} =$$

$$\underline{-r + 1 = 9}$$

(v)

$$m = m_0 \times \left(\frac{\Lambda}{g}\right)^t \quad \frac{1}{g} m = m \times \left(\frac{\Lambda}{g}\right)^t \xrightarrow{-hs}$$

$$\frac{1}{g} = \left(\frac{\Lambda}{g}\right)^t \rightarrow \log_{\Lambda} \frac{1}{g} = t \log_{\Lambda} \frac{\Lambda}{g}$$

$$\log_{\Lambda} 1 - \log_{\Lambda} g - \log_{\Lambda} g = t (\log_{\Lambda} \Lambda - \log_{\Lambda} g)$$

$$\log_{\Lambda} 1 = \frac{1}{\log_{\Lambda} g} = \frac{1}{r} \quad \log_{\Lambda} g = \frac{1}{\log_{\Lambda} g} = \frac{1}{r}$$

$$- \left(\frac{1}{g} + \frac{1}{r} \right) = t \left(r \times \frac{1}{r} + r \times \frac{1}{g} \right)$$

$$t = \frac{19}{r} \quad \frac{19}{r} \times g_0 = r \Lambda_0 \text{ min}$$

$$m_2 = m_0 \times \left(\frac{V}{\Lambda}\right)^t \quad \frac{1}{V} = m_2 = m \times \left(\frac{V}{\Lambda}\right)^t \quad (1)$$

$$\frac{1}{V} = \left(\frac{V}{\Lambda}\right)^t \quad \log \frac{1}{V} = t \cdot \log \frac{V}{\Lambda}$$

$$-\log \frac{1}{V} = -\log \left(\frac{V}{\Lambda}\right)^t = t (\log \frac{V}{\Lambda} - 2 \log \frac{V}{\Lambda})$$

$$\log \frac{1}{V} = \frac{1}{\log \frac{V}{\Lambda}} = \frac{10}{6} \quad \log \frac{\Lambda}{V} = \frac{10}{\Lambda}$$

$$-\frac{10}{6} = t \left(\frac{-10}{\Lambda} \right) \quad t = \frac{10}{\Lambda} = 26 \text{ روز}$$

$$a = a_0 \times \left(\frac{99}{100}\right)^n \rightarrow \frac{1}{100} = \frac{99^n}{100^n} \quad (2)$$

$$\log \frac{1}{100} = n \log \frac{99}{100} = -\log 100 = n (\log 99 - 2)$$

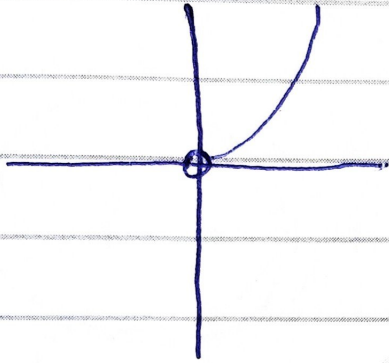
$$-\log 100 = n (2 \log 99 + \log 99 - 2)$$

$$-0, 4771 = n (2 \times 1, 9956 + 1, 9956 - 2)$$

$$n = 24$$

الف) $\log_m^n = m^k$ و $m^k = m^k$

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ب) \log_m^n

m	y
-10	2
$\sqrt{10}$	1
-1	0
$\sqrt{10}$	1
10	2

