۱)

۲)

۳)

$A\Big|_{0}^{r,r} \Rightarrow 0 = C + \log_{\delta}^{(r,ra+b)}$

$B\Big|_{r}^{0} \rightarrow r = C + \log_{\delta}^{b} \rightarrow b = \delta^{r-C} \longrightarrow b = r\delta \times \delta^{-C}$

$\longrightarrow \delta^{-C} = r,ra + b = r,ra + \delta^{r-C} \longrightarrow r,ra = -rr \times \delta^{-C} \longrightarrow a = -1, \times \delta^{-C}$

$\Rightarrow \frac{a}{b} = \frac{-1, \times \delta^{-C}}{r\delta \times \delta^{-C}}$

$\frac{a}{b} = \left(-\frac{r}{\delta}\right)$

۱۲)

۵)

$g(1) = r$ نقطه $\Big|_{r}^{1}$ $f(1) = r = \cdots = r + r^{b-a} \longrightarrow \{ b - a = 1$

$f^{-1}(r+1) = 1\delta \rightarrow f(-1) = 1, = r + r^{b+a} \longrightarrow a + b = r$

$\Rightarrow b = r$, $a = 1$

$rb - a = f - 1 = \left(r^{r}\right)$

۶)

$y = u^{r} - u \rightarrow \Big|_{0}^{1}$

$\rightarrow \Big|_{r}^{r}$

$f(1) = -r + \left(\frac{1}{r}\right)^{A+B} = 0 \Rightarrow \{ A + B = -1$

$f(r) = r = -r + \left(\frac{1}{r}\right)^{rA+B} \Rightarrow \{ rA + B = -r$

$\Rightarrow A = -1$, $rB = 0$

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$f(r) = -r + \left(\frac{1}{r}\right)^{-r} = -r + \lambda = \left(۶\right)$

۸)

۷)

$\frac{2k}{7} = 2k \times (\frac{7}{8})^{\frac{t}{8}}$ ← لگاریتم $\log$ ← $\log_7^{\frac{1}{2}} - \log_7^{(\frac{7}{8})^{\frac{t}{8}}}$ ← $-\log_7^2 = \frac{t}{8}(\log_7^8 - \log_7^7)$

← $\frac{1}{2} = (\frac{7}{8})^{\frac{t}{8}}$ ← $-1 = \frac{t}{8}(1 - 3\log_7^2)$ ← $t = \frac{-8}{-\frac{1}{7}} = 56$

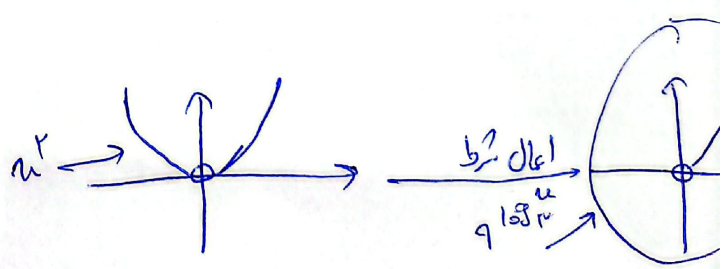
$\log_7^2$ ← $\log_7^2 = \frac{1}{3}\log_7^8$ ← $\log_7^2 = \log_{2^3}^8 \times \log_7^{2^3}$

۶) ویکی سکل مبلغ

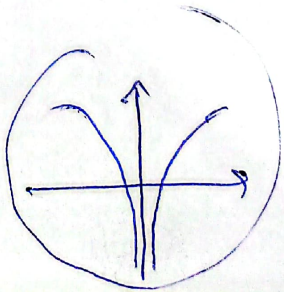
$\frac{2k}{3} = 2k \times (\frac{99}{100})^t$ ← $\frac{1}{2} = \frac{99^t}{100^t}$ ← لگاریتم گیری ← $\log 2^{-1} = \log(\frac{99}{100})^t$ ← $-\log 2 = t\log\frac{99}{100}$

← $-\log 2 = t(\log 99 - \log 100)$ ← $-0.69 = t \times (\underbrace{\log 99}_{1.9} + \underbrace{\log 2}_{0.3} - 2)$ ← $\log 100$ معمولی ← $t = \frac{-0.69}{-0.01} = 69$

۱۰)



الف) $y = \log_3^x 9 = x^{\log_x^3 9} = x^2$ ← دارای شرط $0 < x$ گیریم



ب) $\log_{x^2}^{x^3} = \log_x^x$ ← $\log x^2$ ← شرط $x \neq 0$