

$$n^a = m \quad (1)$$

$$\log_{mn}^{m^n} = b \Rightarrow \log_{n^{a+1}}^{n^{a+1} \times n} = b \rightarrow \frac{a+1}{a+1} \log_n n = b$$

$$\hookrightarrow \log_{n^{a+1}}^{n^{a+1}} \quad \left[\frac{a+1}{a+1} \right] = [b]$$

$$\left[1 + \frac{a}{a+1} \right] = [b] = 1 + \left[\frac{a}{a+1} \right] = [b] \rightarrow 0 < \frac{a}{a+1} < 1$$

$$[b] = 1$$

$$8) \text{ الف) } y = \sqrt{\frac{n}{\log_{\frac{1}{p}} n}} \quad \text{ب) } \frac{\log_{n^r-m-r}}{\sqrt{n^r-1+1}} \quad (2)$$

$$n > 0 \quad (1)$$

$$\log_{\frac{1}{p}} n \neq 0 \Rightarrow n \neq 1$$

$$\frac{0}{1} + \frac{1}{\phi} = \frac{1}{\phi} \rightarrow (0, 1) = D_f$$

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

$$14) r \log_n^a + \log_a^{m^{\frac{1}{r}}} \Rightarrow r \log_n^a + \frac{1}{r} \log_a^m \Rightarrow r \log_n^a = r \quad (3)$$

$$16) a = m^{\frac{1}{r}} \Rightarrow m \leq a, a \leq a^{\frac{1}{r}} \rightarrow \sqrt[r]{a} \rightarrow \frac{a}{a^{\frac{1}{r}}} \quad \log_n^a = \frac{r}{r}$$

$$(\log_8 - \log_8) m^2 + (r \log^2) m - (\log^2 + \log 8) = 0 \quad (5)$$

$$\text{جميع مربعات } \rightarrow m \leq 1, m \leq \frac{c}{a}$$

$$\frac{c}{a} = \frac{-\log^2 - \log 8}{\log 8 - \log^2} = \frac{-0,8 - \log 1 + \log 8}{\log 1 - \log^2 - 0,8} = \frac{-0,8 - 1 + 0,3}{1 - 0,8 - 0,8} = \frac{-1,5}{-0,5} = 3$$

$$\log_8^2 \times \log_8^3 \Rightarrow 0,8 \times 1,8 \Rightarrow \log_8^5 = 1,44$$

$$\log_{18}^1 = \frac{\log_{18}^1}{\log_{18}^2}$$

$$\log_{18}^1 = \log_8^2 + \log_8^3$$

$$\frac{\log_{18}^1}{\log_8^2 + \log_8^3} \Rightarrow \frac{0,8 + 1}{0,8 + 1,8} \Rightarrow \frac{1,8}{2,6} = \frac{18}{26} = \frac{9}{13}$$

$$\log_{18}^4 \times \log_8^3 \Rightarrow \log_8^7 = 2,16$$

$$\log_{18}^4 = \frac{\log_{18}^4}{\log_{18}^5} = \frac{\log_8^2 + \log_8^3}{\log_8^4 + \log_8^5} = \frac{1 + 1,44}{1,44 + 2,16} = \frac{2,44}{3,6} \Rightarrow \frac{1,22}{1,8} = 0,68$$

$$\log_{18}^7 = \frac{\log_{18}^7}{\log_{18}^8} \Rightarrow \log_{18}^7 = \log_{18}^6 + \log_{18}^1 \Rightarrow \frac{7}{18} + \frac{1}{18} \log_8^7 \quad (6)$$

$$\log_{18}^8 = \frac{7}{18} \log_8^7 \Rightarrow \frac{7}{18}$$

$$\log_{18}^8 = m \Rightarrow \log_{18}^6 + \log_{18}^1 = m \Rightarrow \frac{7}{18} \log_8^7 + \frac{1}{18} \log_8^7 = m$$

$$\log_8^7 = \frac{r^{m-1}}{r} \quad \log_{18}^7 = \frac{7}{18} + \frac{1}{18} \log_8^7 \Rightarrow \frac{7}{18} + \frac{1}{18} \left(\frac{r^{m-1}}{r} \right) = \frac{7}{18} (m+1)$$

$$\left(\frac{r}{1}\right)^{r_{m-1}} = \left(\frac{\partial^r}{r^r}\right)^{r_{m-1}} = \left(\frac{r}{\partial}\right)^{r_{m-1}} = \left(\frac{\partial}{r}\right)^{r_{m-1}}$$

①

$$r_{m-1} = r_{m-1}$$

$$r_{m-1} + r_{m-1} = r_{m-1} + r_{m-1}$$

$$r_{m-1} \rightarrow$$

$$(m+r)(m-1)$$

$$9m+1 \rightarrow 9+1 = 10$$

$$\left[m = \frac{r}{r}, \frac{1}{r}\right]$$

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$$m = \frac{1}{r} \checkmark \rightarrow \log \frac{r}{r} \rightarrow \frac{1}{r} \log \frac{r}{r}$$

$$\log \frac{r}{r} \rightarrow \frac{1}{r} \log \frac{r}{r}$$

$$\frac{1}{r} \log \frac{b}{r} = \frac{r}{r}(a+1) \rightarrow \log \frac{b}{r} = r(a+1)$$

②

$$r^{a+1} = b \quad (r^a)^r = r^a \cdot r^a \rightarrow b = r^a$$

$$\log(r^a - 1) = \log(1 \dots) = r$$

$$S = 1 + \frac{b}{r^a} = \log \epsilon \rightarrow \frac{a}{b} = \frac{\log \epsilon}{\epsilon} = \frac{r \log r}{r} \Rightarrow \log_r r$$

③

$$ra = b + c \xrightarrow{\text{بیم}} \frac{ra}{b} = 1 + \frac{c}{b} \rightarrow \frac{a}{b} = \frac{\log r}{r} \rightarrow r \left(\frac{\log r}{r}\right) = 1 + \frac{c}{b}$$

$$\frac{c}{b} = -1 + \log_r r \xrightarrow{\text{④}} \frac{c}{a} = \frac{-1 + \log_r r}{\frac{\log r}{r}} \Rightarrow \frac{c}{a} = \frac{\log_r r - \log_r 1}{\frac{1}{r} \log r}$$

$$\frac{\log \frac{r}{r}}{\frac{1}{r} \log r} = \frac{\log \frac{1}{r}}{\frac{1}{r} \log r} \rightarrow \log \frac{1}{r} \rightarrow \left(\frac{1}{r}\right)^{\frac{c}{a}} = \left(\frac{1}{r}\right)^{\log_r r} \rightarrow \log_r r^{\frac{c}{a}}$$

$$\log \left(\frac{1}{r}\right)^{\frac{c}{a}} = \sqrt[r]{\frac{1}{r}}$$