

$$\log_{1/r}^1 = \frac{\log_r^1}{\log_r^{1/r}} = \frac{\log_r^1 + \log_r^r}{\log_r^r + \log_r^r} \xrightarrow{\log_r^1 = 0, \log_r^r = \frac{1}{\omega}} \log_{1/r}^1 = \frac{r+1}{1+r, \omega} = \frac{r}{r, \omega}$$

$$= \frac{1\omega}{1r}$$

$$\log_{\omega}^r = \frac{\log_r^r}{\log_r^{\omega}} = \frac{\log_r^r + \log_r^r}{\log_r^r + \log_r^r} \xrightarrow{\log_r^r = 1/r, \log_r^r = \frac{1}{1/r}} \log_{\omega}^r = \frac{1 + \frac{\omega}{\lambda}}{1\omega + 1}$$

$$\left(\frac{1/r}{\omega} \right) = \frac{1/r}{1\omega}$$

$$\log_{1/r}^{1/r} = \log_{1/r}^r + \log_{1/r}^r = 1 + \log_{1/r}^r$$

$$m = \log_{1/r}^m = \frac{\log_r^m}{\log_r^{1/r}} = \frac{\log_r^r + \log_r^q}{\log_r^r + \log_r^r} \Rightarrow m = \frac{\frac{1}{r} + r \log_r^r}{\frac{1}{r} + 1} \rightarrow$$

$$\frac{r}{r} m = \frac{1}{r} + r \log_r^r \rightarrow \frac{r m}{r} = \frac{1}{r} + r \log_r^r \rightarrow \log_r^r = \frac{r m}{r} - \frac{1}{r}$$

$$\log_r^r = 1 + \frac{r m}{r} - \frac{1}{r} = \frac{r}{r} (m+1)$$

$$\left(\frac{1/r\omega}{\lambda} \right)^{nr} = \left(\frac{\omega^r}{r^r} \right)^{nr} = \left(\frac{r}{\omega} \right)^{-r m r} = (\log_r^r)^{-r m r}$$

$$-r m r = r m - 1 \rightarrow r m r + r m - 1 = 0 \rightarrow m = -1/x, m = \frac{1}{r} \rightarrow$$

$$\log_{1/r}^{9 \times \frac{1}{r} + 1} = \log_{1/r}^r = \frac{r}{r} \log_r^r = \frac{r}{r}$$

$$\log_{1/r}^b = \frac{r}{r} (1 + \log_r^r) = \frac{r}{r} (\log_r^r + \log_r^r) = \frac{r}{r} \log_r^q = \log_{1/r}^{r^4} \rightarrow$$

$$b = r^4 \rightarrow \log_{(r^4 \times r^4) - 1} = \log_{10}^{100} = r$$

$$[b] = ? , a > 0, \log_{mn}^{m^2 n} = b, \log_n^m = a \quad (1)$$

$$m = n^a \rightarrow \log_{mn}^{m^2 n} = \log_{n \times n}^{n^{2a} n} = \log_{n^{a+1}}^{n^{2a+1}} \Rightarrow \frac{2a+1}{a+1} = b$$

$$\rightarrow b = \frac{a+1}{a+1} + \frac{a}{a+1} = 1 + \frac{a}{a+1} \xrightarrow{a > 0} 0 < \frac{a}{a+1} < 1 \rightarrow [b] = 1$$

$$الف) y = \sqrt{\frac{n}{\log \frac{m}{1}}} \rightarrow (1) \frac{n}{\log \frac{m}{1}} > 0 \rightarrow \frac{0}{0} + \frac{1}{0} = - \quad (2) n > 0$$

$$(1) \cap (2) \rightarrow D_y = (0, 1)$$

$$ب) y = \frac{\log_k^{(n^2 - n - 1)}}{\sqrt{n^2 - 1} + 1} \rightarrow (1) n^2 - n - 1 > 0 \rightarrow \frac{-1}{+} - \frac{1}{+} +$$

$$(2) n^2 - 1 > 0 \rightarrow n^2 > 1 \rightarrow n > 1 \cup n < -1, (3) \sqrt{n^2 - 1} + 1 \rightarrow$$

$$(1) \cap (2) \rightarrow D_y = (-\infty, -1) \cup (1, +\infty)$$

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$$2 \log_a^a + \log_a^b = 2 \rightarrow$$

$$\log_a^a + \log_a^b = 2 \rightarrow \log_a^a + \frac{1}{\log_a^b} - 2 = 0 \xrightarrow{\log_a^a = t} t + \frac{1}{t} - 2 = 0 \rightarrow$$

$$t^2 - 2t + 1 = 0 \rightarrow t = 1 \rightarrow \log_a^a = 1 \rightarrow a = 1$$

$$\log^a = 2 \log^b \approx 0,11, \log^a = \log^b + \log^a \rightarrow \log^a = \log^b \rightarrow (2)$$

$$\log^b = \log^a - \log^b \rightarrow \log^a = 1 - 0,11 = 0,89 \rightarrow \log^a = 0,89 + 0,11 = 1$$

$$\log^a = \log^b - \log^b = 0,89 - 0,11 \approx 0,78 \rightarrow$$

$$0,78 n^2 + 0,11(n - 1) = 0 \rightarrow a + b + c = 0 \rightarrow n = -\frac{11}{78}, n = 1 \rightarrow$$

$$D = \frac{11}{78} - (-\frac{11}{78}) = \frac{11}{39}$$

①

$$\frac{ra}{b} = r \log^r \rightarrow \frac{ra}{b} = \log^r \rightarrow b = \frac{ra}{\log^r}, \quad b + \frac{c}{r} = a \rightarrow c = r(a - b)$$

$$\frac{c}{a} = \frac{ra - b}{a} = r - \frac{b}{a} = r - \left(\frac{ra}{\log^r} \times \frac{1}{a} \right) = r - \frac{r}{\log^r} = r \left(1 - \frac{1}{\log^r} \right) = r - r \log^{-\frac{1}{r}}$$

s.a.m $= r - \log^{-\frac{1}{r}} \rightarrow \frac{1}{\sqrt[r]{r}} = \left(r^{-\frac{1}{r}} \right)^r - r \log^{-\frac{1}{r}} = \left(r^{-\frac{1}{r}} \right)^r (1 - \log^{-\frac{1}{r}}) \rightarrow$

$$r^{-\frac{1}{r}} \log^{\frac{1}{r}} = r \log^{\frac{1}{r}} \rightarrow \omega \log^{\frac{1}{r}} = \omega^{\frac{1}{r}} \log^{\frac{1}{r}} = \sqrt[r]{\omega}$$