

استر من المثلثات Γ_0 في دمج سير

① $x_1 \rightarrow \mu^{A+B}$ $x_2 \rightarrow \mu^0 \rightarrow \begin{cases} A+B=0 \\ \mu^{A+B} \end{cases}$
 $x_2 \rightarrow \mu^{A+B}$ $x_3 \rightarrow \mu^2 \rightarrow \frac{\mu^{A+B} \mu^2}{\mu^{A+B} \mu^2} \rightarrow A=1 \rightarrow B=2 \rightarrow f(n) \mu^{n-1}$ (2)

$\rightarrow f(0) = \mu^{-1} = \frac{1}{\mu}$ ✓

② $\log_{\mu} \mu^{t+1} = t+1 \rightarrow \mu^{t+1} = \mu^{t+1} \rightarrow t+1 = \mu^{t+1} \rightarrow t+1 = \mu^{t+1}$ (2)

$\rightarrow t+1 = \mu^{t+1} \rightarrow t = \mu^{t+1} - 1 \rightarrow \log_{\mu} \mu^{t+1} = t+1 \rightarrow \log_{\mu} \mu^{t+1} = t+1$ ✓

③ $(\log_{\mu} \mu)^{\mu} + \log_{\mu} (\mu^{\mu}) = (\log_{\mu} \mu)^{\mu} + \mu \log_{\mu} \mu = (\log_{\mu} \mu)^{\mu} + \mu$ (2)

$= (\log_{\mu} \mu)^{\mu} + \mu$ ✓

④ $\log_{\mu} (\mu^{\mu} + \mu^{\mu}) = \log_{\mu} (2\mu^{\mu}) = \log_{\mu} 2 + \mu \log_{\mu} \mu = \log_{\mu} 2 + \mu$ (2)

$\rightarrow \mu = 2^{\mu} \rightarrow \log_{\mu} 2 = \log_{\mu} \mu^{\frac{1}{\mu}} = \frac{1}{\mu} \log_{\mu} \mu = \frac{1}{\mu}$ ✓

⑤ $\log_{\mu} (1-\mu)^{\mu} + \mu \log_{\mu} (1-\mu) = \mu \log_{\mu} (1-\mu) + \mu \log_{\mu} (1-\mu) = 2\mu \log_{\mu} (1-\mu)$ (2)

$\rightarrow 1-\mu > 0 \rightarrow \mu < 1 \rightarrow \log_{\mu} (1-\mu) < 0$ ✓

⑥ $\log_{\mu} \mu^{\mu} = \mu \log_{\mu} \mu = \mu$ (2)

$\rightarrow \log_{\mu} \mu^{\mu} = \mu \log_{\mu} \mu = \mu$ ✓

⑦ $\mu^{\mu-1} = \mu^{\mu-1}$ (2)

$\rightarrow \mu^{\mu-1} = \mu^{\mu-1}$ ✓

$\rightarrow \log_{\mu} \mu^{\mu-1} = (\mu-1) \log_{\mu} \mu = \mu-1$ ✓

⑧ $\log_{\mu} \mu^{\mu} = \mu \log_{\mu} \mu = \mu$ (2)

$\frac{\mu}{\log_{\mu} \mu} = \frac{\mu}{1} = \mu$ ✓

$$9) \log(r^2) \log(r^4) = \frac{1 + \log(r^2)}{\log(r^2)} \cdot \frac{1 + \log(r^4)}{\log(r^4)} = \frac{1 + \log(r^2)}{2 + \log(r^2)} \cdot \frac{1 + \log(r^4)}{4 + \log(r^4)}$$

(1)

$$10) m-1 \rightarrow a \log^r - a + b \log^r \rightarrow 20 \rightarrow (a+b) \log^r a$$

(1)

$$\rightarrow \log^r \frac{a}{a+b} \rightarrow \log^r \frac{a+b}{a} \rightarrow 1 + \log^r \frac{b}{a}$$

$$\rightarrow \log^p \frac{b}{a} \rightarrow (\sqrt{r})^{\frac{b}{a}} \rightarrow \sqrt{r} \log^p r \rightarrow 8 \log^p r \rightarrow 2 \sqrt{r} \quad (1)$$