

آریتسا یازدهم دفتر A تالیف شماره ۲۴

$$y = x^r \rightarrow x = 1 \rightarrow y = 1 \rightarrow (1, 1) \Rightarrow 1 = 3^{(A+B)} \rightarrow \begin{cases} A+B = 0 \\ 2A+B = 2 \end{cases} \rightarrow \begin{matrix} A=1 \\ B=-1 \end{matrix}$$

$$\rightarrow f(x) = 3^{(x-1)} \rightarrow x=0 \rightarrow \boxed{y = 3^{-1} = \frac{1}{3}} \quad (0, \frac{1}{3})$$

$$\log_r (\varepsilon + 10) = x + 3 \rightarrow \varepsilon + 10 = r^{(x+3)} \rightarrow (r^r)^x + 10 = r^x \times 1$$

$$\rightarrow r^x \times 1 = (r^x)^r + 10 \quad r^x = A \rightarrow 10A = A^r + 10 \rightarrow A^r - 10A + 10 = 0$$

$$\rightarrow (A-3)(A-2) = 0 \rightarrow A=3 \rightarrow r^x = 3 \rightarrow \boxed{x = \log_r 3} \rightarrow \varepsilon + 10 > 0 \checkmark$$

$$\rightarrow A=2 \rightarrow r^x = 2 \rightarrow \boxed{x = \log_r 2} \rightarrow \varepsilon + 10 > 0 \checkmark$$

$$\Rightarrow \log_r 3 + \log_r 2 = \log_r 10$$

$$\log_{r1} 10^v = \log_{r1} 10 + \log_{r1} v = 1 + (\log_{r1} 10 - \log_{r1} r) = r - \log_{r1} r$$

$$\log_{r1} 10^{rr} = r \log_{r1} 10 + \log_{r1} r = r + \log_{r1} r$$

$$\Rightarrow (\log_{r1} r)^r + \frac{\varepsilon - (\log_{r1} r)^r}{r - \log_{r1} r} \times (r + \log_{r1} r) = (\log_{r1} r)^r + \varepsilon - (\log_{r1} r)^r = \varepsilon$$

$$x^r - r x + 1 = (x-1)^r = (1-x)^r \rightarrow r \log(1-x) + r \log(1-x) = 0$$

$$\rightarrow 2 \log(1-x) = 0 \rightarrow \log(1-x) = 0 \rightarrow 1-x = 1 \rightarrow x = 0$$

$$1-x > 0 \rightarrow x < 1 \rightarrow x = 0 \checkmark \rightarrow \log_r 9 = 2$$



$$x^r + r + \epsilon \rightarrow \Delta < 0 \rightarrow \text{قسطا} \rightarrow x - r > 0 \rightarrow x > r \quad \text{d}$$

$$\log_r (x^r + r + \epsilon) + \log_r (x - r) = \log_r (x^r - 1) = r \rightarrow x^r - 1 = r^r$$

$$\rightarrow x^r = 1 + 1 = 2 \rightarrow x = 2^{\frac{1}{r}} \rightarrow \log_r x = \log_r 2^{\frac{1}{r}} = \frac{1}{r} \times r = 1$$

$$\log \frac{1}{(x-r)^r} = \log \frac{1}{(r-x)^r} = \log (r-x)^{-r} = -r \log (r-x) \quad \text{e}$$

$$\Rightarrow \log (r-x) + (-r \log (r-x)) = r \rightarrow r \log (r-x) = r \rightarrow \log (r-x) = 1$$

$$\rightarrow r-x = 1 \rightarrow x = r-1 \rightarrow r-x > 0 \rightarrow x < r \rightarrow x = r-1 \checkmark$$

$$\rightarrow \log \frac{1}{\sqrt{r}} \rightarrow \log \frac{1}{\sqrt{r}} = \log_r \frac{1}{r} = r \times r = 4$$

$$\Delta x = (r^x)^x - r^{x^r - r} \rightarrow \epsilon x = x^r - r \rightarrow x^r - \epsilon x - r = 0 \quad \text{v}$$

$$x = \frac{\epsilon \pm \sqrt{(\epsilon)^2 - 4(1)(-r)}}{2} = \frac{\epsilon \pm r\sqrt{4}}{2} = r \pm \sqrt{4} \rightarrow x - r > 0 \rightarrow x > r$$

$$\Rightarrow x = r + \sqrt{4} \checkmark \rightarrow \log_4 (r + \sqrt{4} - r) = \log_4 \sqrt{4} = \frac{1}{2}$$

$$\log \frac{1}{1^a} = \frac{\log 1^a}{\log 1^a} = \frac{r \log_r r}{r \log_r r + \log_r r} = \frac{r \left(\frac{a}{r}\right)}{r + \frac{a}{r}} = \frac{1a}{1} \times \frac{1}{r1} = \frac{1a}{r1} = \frac{a}{r} \quad \text{A}$$

$$\log \frac{4}{1^r} = \frac{\log 4^r}{\log 4^r} = \frac{\log 4^r + \log 4^r}{\log 4^r + \log 4^r} = \frac{\frac{1}{r} + \frac{1}{1}}{1 + \frac{1}{1}} = \frac{1^r}{1} \times \frac{1}{1^r} = \frac{1^r}{1^r} \quad \text{g}$$

$$x = -1 \rightarrow a \log_r r = a + b \log_r r = 0 \rightarrow (a+b) \log_r r = a \xrightarrow{\div a} \left(1 + \frac{b}{a}\right) \log_r r = 1 \quad \text{b}$$

$$\rightarrow 1 + \frac{b}{a} = \frac{1}{\log_r r} = \log_r 1 \rightarrow \frac{b}{a} = \log_r 1 - 1 = 1 + \log_r a - 1 = \log_r a = \frac{b}{a}$$

$$\rightarrow \sqrt{r} \log_r a = a \log_r \sqrt{r} = a \frac{1}{r} = \sqrt{a} \quad \text{MR}$$