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* کجا ن جفتی *

Date _____

Subject _____

① $x=1 \Rightarrow r^A + B = 1 \Rightarrow A+B=0$

$x=r \Rightarrow r^A + B = r \Rightarrow A+B=r \Rightarrow A=1, B=-1$ (۲)

$f(x) = r^{x-1} = x=0 \Rightarrow r^{-1} = \frac{1}{r}$ ✓

② $(r^n)^r + 10 = r^{(n+r)} \Rightarrow (r^n)^r - r^n + 10 = 0$ (۲)

$r^{n_1} = 0 \leq r^{n_2} = r$

$x_1 = \log_r 10, x_2 = \log_r r \Rightarrow x_1 + x_2 = \log_r 10$ ✓

⑤ $(\log_r r)^r + (\log_r r + \log_r r)(\log_r r + \log_r r)$ (۲)

$(\log_r r)^r + (1 + \log_r r)(r + \log_r r)$

$(\log_r r)^r + (1 + 1 - \log_r r)(r + \log_r r) = (\log_r r)^r + r - (\log_r r)^r$

\Rightarrow (۵) ✓

⑥ $\log(1-x)^r + \log(1-x)^r = 2 \log(1-x) = 2$ (۲)

$\Rightarrow 1-x=0 \Rightarrow x=1 \Rightarrow \log 1 = 0 = 2$ ✓

⑦ $(x^r - rx + r)(x-1) = r^r = x^r - 1 = 0$ (۲)

$\Rightarrow r \times r = x^r \Rightarrow x = r^{\frac{r}{r}} \Rightarrow \log_{r^{\frac{r}{r}}} r^{\frac{r}{r}} = \frac{r}{r} \times r = r$ (۲) ✓

$$\textcircled{7} \quad \log(r-x) - \log \frac{1}{(r-x)^r} = r \quad \textcircled{r}$$

$$\Rightarrow \log(r-x)^r = r \Rightarrow (r-x)^r = 1000$$

$$\Rightarrow r-x=10 \Rightarrow x = \bar{r}1 \Rightarrow \log \sqrt{r} = \textcircled{r} \checkmark$$

$$\textcircled{8} \quad r^x - r = r^{rx} \Rightarrow r^x - r^x - r = 0 \quad \textcircled{r}$$

$$\frac{r \pm \sqrt{17+1}}{2} = \frac{r \pm \sqrt{18}}{2} = r \pm \sqrt{r}$$

$$\log \frac{(r-x)^r}{r} \quad \frac{r \pm r - \sqrt{r}}{2} \log \frac{r \pm \sqrt{r}}{r} \Rightarrow \textcircled{\frac{1}{r}} \checkmark$$

$$\textcircled{9} \quad r \log \frac{r}{1r} \Rightarrow \log \frac{1r}{r} = \log r + r \log \frac{r}{r} = 1 + \frac{r \times 1}{r} = \frac{r+1}{r} \Rightarrow r \times \frac{1}{r} = \textcircled{\frac{1}{r}} \checkmark$$

$$\textcircled{9} \quad \log \frac{r}{1r} + \log \frac{r}{1r} \Rightarrow \log \frac{r}{r} = r \log r + \log r$$

$$r \times \frac{1}{r} + 1 = \frac{1r}{r} \Rightarrow \frac{1}{r}$$

$$\log \frac{r}{r} = r \log r + \log r$$

$$r + 1/r = \frac{1r}{r} \Rightarrow \frac{10}{r}$$

$$\frac{1}{1r} + \frac{1}{r} = \frac{r}{r} = \frac{1r}{1r} \checkmark$$

$$\textcircled{10} \quad (a+b) \times \log r = a \quad b \log r = a(1 - \log r) \quad \textcircled{r}$$

$$\frac{b}{a} = \frac{1 - \log r}{\log r} = \frac{\log a}{\log r} = \log \frac{a}{r} \Rightarrow (\sqrt{a})^{\log \frac{a}{r}} = \Delta \bar{r} = \textcircled{5} \checkmark$$