

اداره ۲ مستجاب $P = (-\infty, -1) \cup (2, +\infty)$ مستجاب $n < -1$ مستجاب $n > 2$

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۲۳ کلاس: از هم در نظر

مهربان دوستم شود

$$\log_n a$$

$$\frac{\log_m a}{\log_m n} = a$$

طبق قراین و لا

$$b = \log_{mn} n^2 = \frac{2 \log_m n + \log_n n}{\log_m n + \log_m n} = \frac{2a+1}{a+1} = 1 + \frac{a}{a+1} \quad 1, \dots$$

$$\rightarrow [b] = 1$$

$$(الف) y = \sqrt{\frac{n}{\log \frac{1}{r}}}$$

$$n > 0$$

$$\log \frac{1}{r} \neq 0$$

$$\log \frac{1}{r} = 0 \rightarrow n = 1 \Rightarrow n \neq 1$$

$$\frac{n}{\log \frac{1}{r}} \geq 0 \quad \frac{\log \frac{1}{r}}{1-r} \geq 0$$

صورت ≥ 0
مخرج ≥ 0
شبه $\rightarrow$ مثبت
منفی $\rightarrow$ منفی
 $P_y = (0, 1)$

$$(ب) y = \frac{\log(n^2 - n - 2)}{\sqrt{n^2 - 1} + 1}$$

$$n^2 - n - 2 > 0 \quad (n-2)(n+1) > 0$$

$$\sqrt{n^2 - 1} + 1 \neq 0$$

$$n^2 - 1 \geq 0 \quad n \leq -1 \text{ or } n \geq 1$$

$$r \log a + \log r = 2 \quad \log a + \log r = 2$$

$$\log r + \log a = 2 \quad \log a + \frac{1}{\log a} = 2$$

$$(\log a)^r + 1 = 2 (\log a)$$

$$t^r + 1 = 2t \quad t^r - 2t + 1 = 0 \rightarrow (t-1)^r = 0$$

$$\log 5 = \log \frac{1}{2} = 1 - \log 2 = 1 - 0,3 = 0,7$$

$$\log \frac{5}{2} = \log 5 - \log 2 = 0,7 - 0,3 = 0,4$$

$$\log 9 = \log 3^2 = 2 \log 3 = 2 \times 0,4 = 0,8$$

$$\log 10 = \log 5 \times 2 = \log 5 + \log 5 = 0,7 + 0,7 = 1,4 \Rightarrow 0,7 \log 5 + 0,8 \log 9 = 1,4$$

$$\frac{x}{y} \Rightarrow 3n^2 + 8n + 11 = 0 \quad |n_1 - n_2| = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{64 - 4(3)(11)}}{3} = \frac{\sqrt{192}}{3} = \frac{8\sqrt{3}}{3}$$

$$\log \frac{1}{5} = \frac{1}{r} \Rightarrow \frac{\log 2}{\log 5} = \frac{1}{r}$$

$$\frac{\log 2}{\log \frac{1}{5}} = \frac{1}{r}$$

$$\frac{\log 2}{\log 10 - \log 2} = \frac{1}{r}$$

$$\frac{\log 2}{1 - \log 2} = \frac{1}{r}$$

$$1 - \log 2 = r \log 2 \quad \log 2 = \frac{1}{r+1}$$

$$\log 2 = \frac{1}{r}$$

$$\log 2 = \frac{1}{r}$$

$$\frac{\log 4}{\log 2} = 2, \quad \frac{\log 4}{\log 2} = 2, \quad \Rightarrow \frac{\log 4}{\log 2} = 2$$

$$\log 4 = \frac{1}{r} \times 2, \quad \log 4 = \frac{1}{r} \times 2, \quad \log 4 = \frac{2}{r}$$

$$\log \frac{1}{10} = \frac{\log 1}{\log 10} = \frac{1}{\log 2 + \log 5}$$

$$= \frac{1}{\frac{1}{r} + \frac{1}{5}} = \frac{1}{\frac{1}{10}} = 10$$

$$= \left(\frac{1}{5}\right) \left(\frac{1}{4}\right)^{\log_4 5} = \left(\frac{1}{5}\right)^{-\frac{1}{2}} = 5^{\frac{1}{2}} = \sqrt{5}$$

عبارت نقل الی

$$\log_5 5 \times \log_5 5 = \log_5 5 \quad (I)$$

$$(I) \Rightarrow \log_5 5 \times \log_5 5 = 1 \times 1 = 1 \Rightarrow \log_5 5 = 1$$

$$(II) \Rightarrow \log_5 4 = \frac{\log_4 5}{\log_4 5} \quad \log_5 4 = \frac{\log_5 5 + \log_5 4}{\log_5 5 + \log_5 4} = \frac{1 + \log_5 4}{1 + \log_5 4} = \frac{1 + \log_5 4}{1 + \log_5 4}$$

$$\log_5 12 = \frac{\log_4 12}{\log_4 5}$$

$$\log_5 12 = \log_5 4 + \log_5 3 = \log_5 4 + \log_5 3$$

$$\frac{r}{r} \log_5 5 + \frac{1}{r} \log_5 5 = \frac{r}{r} + \frac{1}{r} \log_5 5 \quad \log_5 5 = \log_5 5 = 1 \Rightarrow \log_5 5 = 1$$

$$(5/4)^{r-1} = \left(\frac{125}{4}\right)^{nr} \quad \frac{125}{4} = \left(\frac{5}{4}\right)^{nr} \Rightarrow \left(\frac{5}{4}\right)^{r-1} = \left(\frac{5}{4}\right)^{nr}$$

$$\frac{5}{4} = \left(\frac{5}{4}\right)^{-1} \quad \left(\frac{5}{4}\right)^{r-1} = \left(\frac{5}{4}\right)^{-2nr}$$

$$n_1 = -1 \text{ GGE} \quad \log_5 4 = \log_5 4 \quad \log_5 4 = \log_5 4 \quad \log_5 4 = \log_5 4$$

$$\log_5 4 = \log_5 4 \quad \frac{1}{r} \log_5 4 = \frac{1}{r} (1 + \log_5 4) \quad \text{سوال 9}$$

$$\log_5 4 = 2 \log_5 2 = \log_5 4$$

$$\log_{10} 10^{-n} = -n$$

$$\log_5 4 = \frac{\frac{r}{r} + \frac{1}{r} \log_5 4}{\frac{r}{r}} = \frac{\frac{r}{r} + \frac{1}{r} \left(\frac{r-1}{r}\right)}{\frac{r}{r}} = \frac{r + \left(\frac{r-1}{r}\right)}{r} = \frac{r + \frac{r-1}{r}}{r} = \frac{r^2 + r - 1}{r^2}$$

$$\frac{1}{-b} = \log_5 4 \quad \frac{5a}{b} = \log_5 4$$

$$\frac{a}{b} = \frac{\log_5 4}{5} = \frac{2 \log_5 2}{5} = \frac{\log_5 4}{5}$$

$$2a = b + c$$

طریق حساب

$$\Rightarrow 2a = b + c \Rightarrow \frac{2a}{b} = 1 + \frac{c}{b} \quad \left(\frac{a}{b} = \frac{\log_5 4}{5}\right)$$

$$\left(\frac{a}{b} = \frac{\log_5 4}{5}\right)$$

$$2 \left(\frac{\log_5 4}{5}\right) = 1 + \frac{c}{b}$$

(اداسه 10)

$$\left\{ \begin{array}{l} \frac{c}{b} = -1 + \log_5 4 \\ \frac{a}{b} = \frac{\log_5 4}{5} \end{array} \right. \Rightarrow \frac{c}{a} = \frac{-1 + \log_5 4}{\frac{\log_5 4}{5}} \Rightarrow \frac{c}{a} = \frac{5(-1 + \log_5 4)}{\log_5 4}$$

$$\Rightarrow \frac{c}{a} = \frac{\log_5 2 - \log_5 10}{\frac{1}{5} \log_5 4} = \frac{\log_5 2}{\frac{1}{5} \log_5 4}$$

$$= \frac{\log_5 2}{\frac{1}{5} \log_5 4} = \log_5 \frac{2}{\sqrt{4}}$$

$$\left(\frac{1}{\sqrt{r}}\right)^{\frac{c}{a}} = \left(\frac{1}{\sqrt{r}}\right)^{\log_5 \frac{2}{\sqrt{4}}} = \left(\frac{1}{5}\right)^{\log_5 \frac{2}{\sqrt{4}}} = \left(\frac{1}{5}\right)^{\log_5 \frac{2}{2}} = \left(\frac{1}{5}\right)^{\log_5 1} = 1$$