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عرفان حقیقی یازدهم پسر A

$\log_n^m = a \Rightarrow n^a = m$ (۱

$\log_{mn}^{m^r n} \Rightarrow \log_n^{a+1} = b \Rightarrow \frac{ra+1}{a+1} \log_n^n = b$

$[b] = \left[\frac{ra+1}{a+1}\right] \Rightarrow \left[\frac{ra+r-1}{a+1}\right] \Rightarrow \left[r - \frac{1}{a+1}\right]$

$(0,1)$

$[b] = 1$

الف) $\log_{\frac{1}{r}}^n > 0 \Rightarrow n < 1$ II $\quad$ $n > 0$ I (۲

دامنه گاریتم

$I \cap II = D = (0,1)$

ب) $x^r - x - r > 0 \Rightarrow$ $\begin{matrix} & -1 & & r & \\ + & | & - & | & + \end{matrix} \Rightarrow (-\infty, -1) \cup (r, \infty)$ I

$x^r - 1 \geq 0 \Rightarrow x^r \geq 1 \Rightarrow x \geq 1 \cup x \leq -1$

$I \cap II \Rightarrow D = (-\infty, -1) \cup (r, +\infty)$

V

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۳)

$2\log_{3^2}^{9a}$

$2\log_9^{a} + \log_a^{3} \Rightarrow \log_3^{a} + \log_a^{3} = 2$

$\frac{1}{\log_a^{3}} + \log_a^{3} = 2 \xRightarrow{\log_a^{3} = A} \frac{1}{A} + A = 2 \Rightarrow$

$A = 1 \Rightarrow \log_a^{3} = 1 \Rightarrow a = 3$

۴)

$\log_{10}^{\frac{5}{3}} \Rightarrow \underbrace{\log_{10}^{5}}_{\log_{10}^{10} - \log_{10}^{2}} - \log_{10}^{3} \Rightarrow 0.7 - 0.4 = 0.3$

$\log_{10}^{9} = 2\log_{10}^{3} \Rightarrow 2(0.4) \Rightarrow 0.8$

$\log 15 = \underbrace{\log_{10}^{5}}_{\log_{10}^{10} - \log_{10}^{2}} + \log_{10}^{3} \Rightarrow 0.7 + 0.4 =$

$0.3x^2 + 0.8x - 1.1 \Rightarrow 3x^2 + 8x - 11 = 0$

$x \begin{cases} 1 \\ \frac{-11}{3} \end{cases}$ $\alpha - \beta = \frac{14}{3}$

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$\frac{\log_{10} 5}{\log_{15} 10} \Rightarrow \frac{\log_2^2 + \log_3^5}{\log_3^2 + \log_3^7} \Rightarrow \frac{0.3 + 1}{0.3 + \log_3^7}$ /3

$\log_3^7 \Rightarrow \frac{\log_2^7}{\log_2^3} \Rightarrow \frac{2.1}{2} = 1.4$

$\log_3^2 = 0.3 \quad \frac{1}{\log_2^3} = 2$

$\log_{15}^{10} \Rightarrow \frac{0.3 + 1}{0.3 + 1.4} \Rightarrow \frac{1.3}{1.7}$

$\frac{\log_2^6}{\log_2^{15}} \Rightarrow \frac{\log_2^3 + \log_2^2}{\log_2^3 + \log_2^5} \Rightarrow \frac{1.6 + 1}{1.6 + \log_2^5}$ /5

$\log_2^5 \Rightarrow \frac{\log_3^5}{\log_3^2} \Rightarrow \frac{1.5}{\frac{1}{1.6}} = 2.4$

$\log_2^3 = 1.6 \Rightarrow \frac{1}{\log_3^2} = \frac{1}{1.6}$

$\log_{15}^6 \Rightarrow \frac{1.6 + 1}{1.6 + 2.4} = 0.6$

V

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(۷

$\log_{۸}^{۱۸} = m \Rightarrow \frac{۱}{۳}\log_{۲}^{۱۸} = m \Rightarrow \log_{۲}^{۱۸} = m$

$\log_{۲}^{۲} + \log_{۲}^{۹} = \frac{۳}{۲}m \Rightarrow ۱ + ۲\log_{۲}^{۳} = \frac{۳}{۲}m \Rightarrow$

$\log_{۲}^{۳} = \frac{۳m-۱}{۲}$ $\log_{۴}^{۱۲} \Rightarrow \frac{۱}{۲}\log_{۲}^{۱۲} \Rightarrow$

$\frac{۱}{۲}\left(\log_{۲}^{۴} + \log_{۲}^{۳}\right) \Rightarrow \frac{۱}{۲}\left(۲ + \frac{۳m-۱}{۲}\right) \Rightarrow \frac{۳(m+۱)}{۴}$

$$\left(\frac{4}{10}\right)^{2n-1} \div \left(\frac{125}{8}\right)^{n^2} \Rightarrow \left(\frac{5}{5}\right)^{3n-1} \div \left(\frac{5}{2}\right)^{3n^2}$$ /10

$$3n-1 = -3n^2 \Rightarrow 3n^2+3n-1=0 \Rightarrow n \begin{cases} -1 \\ \frac{1}{3} \end{cases}$$

$\log_8^{-8}$ تعریف نشده

$$\log_8^4 \Rightarrow \frac{2}{3}\log_2^2 = \frac{2}{3}$$

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$\log_{\lambda}^{b} = \frac{2}{3}(1+a) \Rightarrow \frac{1}{3}\log_{2}^{b} = \frac{2}{3}(\log_{2}^{2} + \log_{2}^{3})$ $\log_{2}^{3} = a$ (9

$\frac{1}{3}\log_{2}^{b} = \frac{1}{3}\log_{2}^{3^6} \Rightarrow b = 3^6$

$\log(3b - 8) \Rightarrow \log 100 \Rightarrow 2$

/a1.

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha+\beta}{\alpha\beta} \Rightarrow \frac{S}{P} = \frac{\Lambda ab}{-r_{ac}} - \frac{r_b}{-c}$$

$$\Rightarrow a = \frac{b+c}{r}$$