نام و نام خانوادگی [illegible] پاسخنامه تشریحی تکلیف شماره ۲۳ کلاس یازدهم ریاضی B

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$\log_n m = a \qquad \log_{mn} m^2 n = b \qquad b = \frac{\log_n m^2 n}{\log_n mn} = \frac{\log_n m^2 + \log_n n}{\log_n m + \log_n n} = \frac{2a+1}{a+1}$

as.

$\left[\frac{a+1}{a+1} + \frac{a}{a+1}\right] = 1 + \left[\frac{a}{a+1}\right] = (1)$

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الف) $y = \sqrt{\frac{x}{\log_{\frac{1}{2}} x}} \qquad \frac{x}{\log_{\frac12} x} \geq 0 \qquad x \geq 0 \ (I) \qquad \log_{\frac12} x > 0 \Rightarrow x < 1,\ x > 0 \ (II) \qquad (I)\cap(II) = (0,1) = D_f$

ب) $y = \frac{\log_2 (x^2 - x - 2)}{\sqrt{x^2-1}+1} \qquad x^2 - x - 2 > 0,\ (x-2)(x+1) > 0 \ (I)$

$x^2 - 1 \geq 0,\ x \geq 1 \ (II),\ x \leq -1 \qquad (I)\cap(II) = D : (-\infty,-1)\cup(2,+\infty)$

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$2\log_x a + \log_a \sqrt{x} = 2\log_{x^{2}} \ldots = \log_{\sqrt{x}} a + \log_a \sqrt{x} = \log_{\sqrt{x}} a + \frac{1}{\log_{\sqrt{x}} a} = 2 \qquad \log_x a = t$

$\log_{\sqrt{x}} a = 1 \qquad \log_4 a = 1 \qquad a = 4$

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$\log 2 = 0.3 \qquad \log 3 = 0.48$

$(\log \frac{5}{3})x^2 + (\log 9)x - \log 10 = 0$

$\frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{(\log 9)^2 + 4(\log\frac{5}{3} \times \log 10)}}{|\log\frac{5}{3}|} = \frac{\sqrt{4\log^2 3 + 4((\log 5) - (\log 3))}}{\log 5 - \log 3} = \frac{\sqrt{4\times 0.48^2 + 4((1-0.3) - (0.48))}}{1 - 0.3 - 0.48} = \frac{1.7 - 1.04}{0.3} = \frac{0.68}{0.3} \approx (9)$

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$\log_2 7 = 2.8 \qquad \log_5 2 = 0.5 \rightarrow \log_2 5 = 2$

$\log_{14} 10 = \frac{1}{\log_{10} 14} = \frac{1}{\frac{\log_2 14}{\log_2 10}} = \frac{\log_2 10}{\log_2 14} = \frac{\log_2 2 + \log_2 5}{\log_2 7 + \log_2 2} = \frac{1+2}{2.8+1} = \frac{3}{3.8}$

$\log_{\mu}^{\Delta} = 1,\delta$

$\log_{\mu}^{\mu} = 1,\mu$

$\log_{10}^{4} = \frac{\log_{\mu}^{4}}{\log_{\mu}^{10}} = \frac{\log_{\mu}^{\mu} + \log_{\mu}^{\mu}}{\log_{\mu}^{\mu} + \log_{\mu}^{\Delta}} = \frac{1+1,\mu}{1,\mu}$ ۶

$\log_{\Lambda}^{\sqrt{\mu}} = m = \frac{1}{\mu}\log_{\mu}^{\sqrt{\mu}} = \frac{1}{\mu}(\log_{\mu}^{\mu} + \log_{\mu}^{\mu}) = \frac{1}{\mu}(1 + \frac{\mu}{\mu}\log_{\mu}^{\mu}) = \frac{1}{\mu} + \frac{\mu}{\mu}\log_{\mu}^{\mu} = m$

$\frac{\mu}{\mu}\log_{\mu}^{\mu} = m - \frac{1}{\mu}$ $\log_{\mu}^{\mu} = \frac{\mu m - 1}{\mu}$ ۷

$\log_{\mu}^{\mu\mu} = \frac{1}{\mu}\log_{\mu}^{\mu\mu} = \frac{1}{\mu}(\log_{\mu}^{\mu} + \log_{\mu}^{\mu}) = \frac{1}{\mu}(\mu + \frac{\mu m - 1}{\mu}) = \frac{1 + \frac{\mu m - 1}{\mu}}{\mu}$

$(0,\mu)^{\mu x - 1} = (\frac{1}{\mu})^{\mu x^{\mu}} \rightarrow (\frac{\Delta}{\mu})^{-1 \times (\mu x - 1)} = (\frac{\Delta}{\mu})^{\mu \times x^{\mu}}$

$1 - \mu x = \mu x^{\mu} \rightarrow \mu x^{\mu} + \mu x - 1 = 0 \rightarrow x = -1$

$\searrow x = \frac{1}{\mu}$ ۸

$\log_{\Lambda}^{9x+1} \Rightarrow \log_{\Lambda}^{-\Lambda} = ?$

$\Rightarrow \log_{\mu}^{\mu} = \frac{\mu}{\mu}\log_{\mu}^{\mu} = \frac{\mu}{\mu}$

$\log_{\mu}^{\mu} = a$ $\log_{\Lambda}^{b} = \frac{1}{\mu}\log_{\mu}^{b} = \frac{1}{\mu}(1+a)$ $\log_{\mu}^{b} = \mu + \mu a = \log_{\mu}^{\mu} + \log_{\mu}^{\mu\mu}$

$b = \mu \times a = \mu a$

$\log^{(\mu \times \Delta \mu) - \Lambda} = \log^{1\cdots} = \mu$ ۹

$-\mu a x^{\mu} + b x + \frac{1}{\mu} c = 0$

$\frac{-\mu a}{-b} = \frac{\mu a}{b} = \log^{\mu} \mu = \log^{\mu} \mu$ $\frac{\mu a}{b} = \log^{\mu}$ $b = \frac{\mu a}{\log^{\mu}}$ $a = \frac{b+c}{\mu}$ ۱۰