نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۲۴ کلاس یازدهم پسر B

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$y=x^2 \Rightarrow x=1 \to y=1$

$y=x^3 \Rightarrow x=3 \to y=9$

$\Rightarrow \begin{cases} 3^{A+B}=1 & A+B=0 \\ x^{2A+B}=9 & 2A+B=2 \end{cases} \Rightarrow A=1, B=-1 \to f(x)=3^{x-1} \xrightarrow[x=0]{} 3^{-1}=\frac{1}{3}$

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$\log_2^{x^2+1\omega} = x+3 \Rightarrow 4^x+1\omega=2^{x+3} \Rightarrow (2^x)^2+1\omega=8\times 2^x \xrightarrow{2^x=t} t^2+1\omega=8t \begin{cases} t=3 \\ t=\omega \end{cases}$

$\to 2^x=3 \to x=\log_2^3$

$\to 2^x=\omega \to x=\log_2^\omega$

$\to \log_2^3+\log_2^\omega=\log_2^{1\omega}$

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$(\log_{21}^3)^2+(1+\log_{21}^7)(2+\log_{21}^3)=(\log_{21}^3)^2+2+\underbrace{\log_{21}^3+\log_{21}^7}_{1}+\log_{21}^7+\log_{21}^3\log_{21}^7$

$\to \log_{21}^3 \underbrace{\times 1+2+1+\log_{21}^7}_{1} = 4$

۴

$\log(1-x)^2+2\log^{1-x}=2\log^{1-x}+2\log^{1-x}=\omega\log^{1-x}=\omega \Rightarrow \log_{10}^{1-x}=1 \to 1-x=10 \Rightarrow x=-9$

$\to \log_2^9=2$

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$\log_2^{(x+2)(x^2+2x+4)}=3 \Rightarrow \log_2^{x^3-1}=2 \to x^3-1=4 \to x^3=14 \to x=\sqrt[3]{14}$

$\log_{\sqrt[3]{2}}^{\sqrt[3]{14}}=4$

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$$\log_{\sqrt{2}}^{\wedge}(x-2)(x-2)^2 = \log_{\sqrt{2}}^{\wedge}(x-2)^3 = 3 \to (x-2)^3 = 10^3 \to x-2 = 10 \to x = 12 \to \log_{\sqrt{2}}^{\wedge} 4 = \boxed{4}$$

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$$3^{x^2-2} = 3^{4x} \to x^2-4x-2=0 \begin{cases} \to x = 2+\sqrt{6} \to \log_{4}^{\sqrt{2}} = \boxed{\frac{1}{2}} \\ \to x = 2-\sqrt{6} \end{cases}$$

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$$\log_{12}^{\wedge} = \frac{\log_2^{\wedge}}{\log_3^{\wedge}} \to \log_2^{\wedge} = 3 \to \log_{12}^{\wedge} = \log_2^2 + \log_3^2 = 1+2 = 3\log_2^2 \xrightarrow{\log_2^2 = \frac{3}{2}\log_3^2 = \frac{3}{2}\log_4^3} \log_{12}^{\wedge} = \frac{3}{1+2\left[\frac{2}{3}\right]} = \boxed{\frac{9}{7}}$$

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$$\log_{24}^{12} = \frac{\log_6^{12}}{\log_6^{24}} \Rightarrow \log_6^{12} = \log_6^6 + \log_6^2 = 1 + \log_6^2 = 1 + \frac{1}{3}\log_2^2 = 1 + \frac{1}{3}\log_3^3 = 1 + \frac{1}{3} = \frac{4}{3}, \quad \log_6^{24} = \log_6^4 + \log_6^6 = 2\log_6^2 + 1 = 2\log_3^3 + 1 = 2 + 1 = 3 \to \boxed{\frac{12}{24} = \frac{4}{8}}$$

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$$x=-1 \xrightarrow{a+c=b} a\log_3 + b\log_3 = a \to b\log_3 = a - a\log_3 \Rightarrow b\log_3 = a(1-\log_3) \Rightarrow \frac{b}{a} = \frac{1-\log_3}{\log_3}$$

$$= \frac{\log_{10} - \log_3}{\log_3} = \frac{\log_{\frac{10}{3}}}{\log_3} = \log_3^{\frac{10}{3}} \Rightarrow (\sqrt{3})^{\log_3^{\frac{10}{3}}} = 3^{\log_3^{\sqrt{3}}} = 3^{\frac{1}{2}} = \boxed{\sqrt{3}}$$