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9:40 AM

Question - which two variable function W will make the following true:

$$
\begin{aligned}
& W\left[\alpha_{3}, c[1] \alpha_{3}\right]+W\left[\alpha_{4}, c[1] \alpha_{4}\right]=W\left[\alpha_{4}+\alpha_{3}\left(1+c[1] \alpha_{4}\right), c[1]\left(\alpha_{4}+\alpha_{3}\left(1+c[1] \alpha_{4}\right)\right]\right] \\
& \begin{aligned}
& W(\alpha)+W(\beta)=W(\alpha+\beta+c \alpha \beta) \\
& \begin{aligned}
W\left(\alpha-\frac{1}{c}\right)+W\left(\beta-\frac{1}{c}\right) & =W\left(\alpha-\frac{1}{c}+\beta-\frac{1}{c}+C\left(\alpha-\frac{1}{c}\right)\left(\beta-\frac{1}{c}\right)\right) \\
& =W\left(\alpha \beta-\frac{1}{c}\right) \quad c \alpha \beta-\beta-\alpha+\frac{1}{c}
\end{aligned} \\
& \begin{aligned}
W^{\prime}(x)=W\left(x-\frac{1}{c}\right) \quad W(x)=W^{\prime}\left(x+\frac{1}{c}\right)
\end{aligned} \\
& \begin{aligned}
W^{\prime}(\alpha)+W^{\prime}(\beta) & =W^{\prime}(C \alpha \beta)
\end{aligned} \\
& W^{\prime}(x)=\log (c x) \quad W(x)=\log (c x+1)
\end{aligned}
\end{aligned}
$$

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