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Inequalities on the Lambert W Function and Hyperpower Function

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Abstract: In this note, we obtain inequalities for the Lambert W function $W(x)$, defined by $W(x)e^{W(x)} = x$ for $x \geq -e^{-1}$. Also, we get upper and lower bounds for the hyperpower function $h(x) = x^{x^{x^{\dots}}}$.



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