

$$\lim_{x \rightarrow 0^+} (1 + \sqrt{x})^{(\ln x)^2} = 1$$

( $1^\infty$ )

INFATTI:

$$(1 + \sqrt{x})^{(\ln x)^2} = e^{(\ln x)^2 \ln(1 + \sqrt{x})} \rightarrow 1$$

( $\ln x)^2 \rightarrow 0$ )

INFATTI:

$$(\ln x)^2 \ln(1 + \sqrt{x}) = x (\ln x)^2 \frac{\sqrt{x}}{x} \frac{\ln(1 + \sqrt{x})}{\sqrt{x}} \rightarrow 0$$

( $x \rightarrow 0$ ) ( $\ln x)^2 \rightarrow 1$  ( $\sqrt{x} \rightarrow 1$ )

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$$\lim_{x \rightarrow \infty} (\ln x)^{\frac{1}{\ln^2 \ln x}} = 0$$

( $1^\infty$ )

INFATTI:

$$(\ln x)^{\frac{1}{\ln^2 \ln x}} = e^{\frac{\ln(\ln x)}{\ln^2(\ln x)}} = e^{\frac{\ln(\ln x)}{\ln(\ln x)} \frac{1}{\ln(\ln x)}} \rightarrow 0$$

( $\ln(\ln x) \rightarrow 1$ ) ( $\ln(\ln x) \rightarrow -\infty$ )