Proof Without Words:
Steiner’s Problem on the Number $e$

For what positive $x$ is the $x$th root of $x$ the greatest? [1, 2]

Solution. $x > 0 \implies \sqrt[x]{x} \leq \sqrt[e]{e}$.

[In the right-hand figure, $x > 1$; the other case differs only in concavity.]

REFERENCES
1. R. M. Dimitrić, Using less calculus in teaching calculus: An historical approach, this MAGAZINE 74 (2001) 201-211.

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