

On a Transcendental Equation

Edgar Valdebenito

abstract

We show the real roots of a transcendental equation

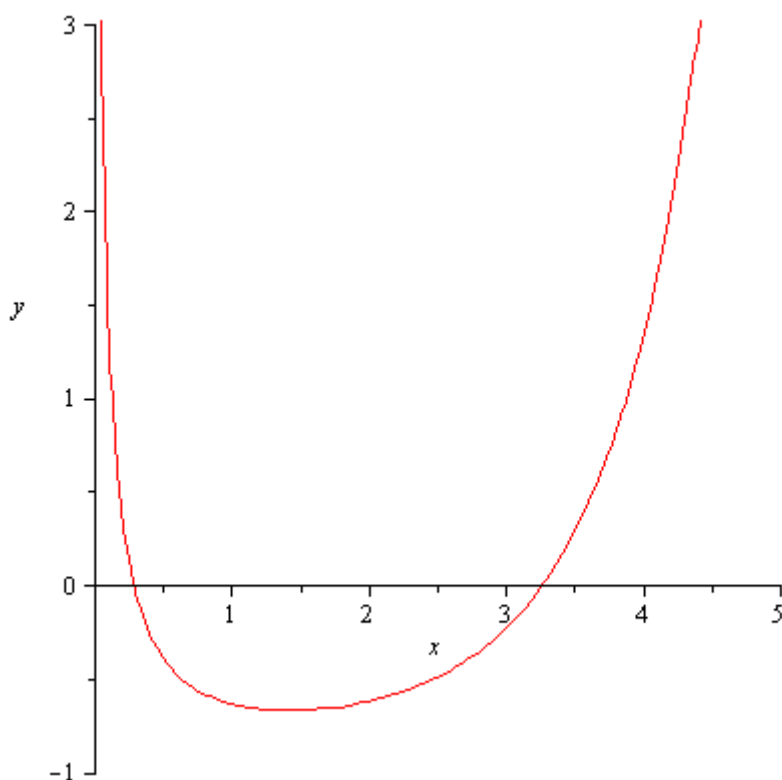
LAS RAÍCES REALES DE LA ECUACIÓN: $x^{x-0.5}e^{-x} = 1$

EDGAR VALDEBENITO V.
(2006)

Resumen. Se muestran las raíces reales de la ecuación $x^{x-0.5}e^{-x} = 1$.

1. INTRODUCCIÓN.

Gráfico de la función: $y(x) = x^{x-0.5}e^{-x} - 1$, $x > 0$.



$$y(a) = 0, \quad a = 0.280017147966\dots$$

$$y(b) = 0, \quad b = 3.258475746781\dots$$

2. FÓRMULAS PARA a Y b

$$a = \frac{1}{2 - \frac{1}{2 - \frac{1}{2 - \frac{1}{2 - \dots}}}}$$

$$b = \exp \frac{2}{2 - \frac{1}{\exp \frac{2}{2 - \frac{1}{\exp \frac{2}{2 - \dots}}}}}$$

3. REFERENCIAS.

- 1) Abramowitz, M. e I.A. Stegun, Handbook of Mathematical Functions. Nueva York: Dover , 1965.
- 2) I. S. Gradshteyn and I. M. Ryzhik, Table of Integrals, Series, and Products (A. Jeffrey) , Academic Press, New York, London, and Toronto, 1980.
- 3) M. R. Spiegel, Mathematical Handbook, McGraw-Hill Book Company, New York, 1968.
- 4) E. Valdebenito, Pi Handbook, manuscript, unpublished, 1989 , (20000 fórmulas).