

$$f(x) = \frac{x^2}{e^x}$$

$$D(f) = \mathbb{R}$$

$$e^x = 0 \rightarrow \ln e^x = \ln 0$$

$$x \ln e = \ln 0$$

$$x = \ln 0 \quad \nexists \text{ solución}$$

$$f'(x) = \frac{2x e^x - x^2 \cdot e^x}{(e^x)^2} = \frac{\cancel{e^x} (2x - x^2)}{(e^x)^{\cancel{2}}}$$

$$f'(x) = \frac{2x - x^2}{e^x}$$

$$f'(x) = 0$$

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

$$x = 0$$

$$2 - x = 0 \rightarrow x = 2$$

ΜΟΝΟΤΟΝΙΑ

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|-----------|-------------|---|-------------|---|-------------|-----------|
| | $f'(x) < 0$ | | $f'(x) > 0$ | | $f'(x) < 0$ | |
| $-\infty$ | DECRECE | 0 | CRECE | 2 | DECRECE | $+\infty$ |

$$f'(-1) = \frac{-3}{e^{-1}} \quad f'(1) = \frac{1}{e} \quad f'(3) = \frac{-3}{e^3}$$

$$x = 0$$

$$x = 2$$

ΜΙΝΙΜΟ

ΜΑΧΙΜΟ

$$(0, 0)$$

$$(2, \frac{4}{e^2})$$