

Find the following for $f(x) = e^{-x^2} + 1$ (if they exist; if they don't exist, state so).
Use this information to graph f .

Note $f'(x) = -2xe^{-x^2}$, $f''(x) = 2e^{-x^2}[2x^2 - 1]$

Is f even, odd, periodic? What is the domain and range of f ?

[1.5] 1a.) critical numbers: _____

[1.5] 1b.) local maximum(s) occur at $x =$ _____

[1.5] 1c.) local minimum(s) occur at $x =$ _____

[1.5] 1d.) The global maximum of f on the interval $[0, 5]$ is _____ and occurs at $x =$ _____

[1.5] 1e.) The global minimum of f on the interval $[0, 5]$ is _____ and occurs at $x =$ _____

[1.5] 1f.) Inflection point(s) occur at $x =$ _____

[1.5] 1g.) f increasing on the intervals _____

[1.5] 1h.) f decreasing on the intervals _____

[1.5] 1i.) f is concave up on the intervals _____

[1.5] 1j.) f is concave down on the intervals _____

[1.5] 1k.) Equation(s) of vertical asymptote(s) _____

[4] 1l.) Equation(s) of horizontal and/or slant asymptote(s) _____

[4.5] 1m.) Graph f

