Lecture 19 Activity: Maximum and Minimum Values

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math.dartmouth.edu/~blogsdon/activity19.pdf

Compute the following limits.

1. $\lim_{x \to 0^+} x^2 \ln x$
2. $\lim_{x \to \frac{\pi}{2}+} \frac{\tan x}{\sec x}$
3. $\lim_{x \to 0} \frac{1-\cos x}{x}$
4. $\lim_{x \to \pi} \frac{\sin x}{\cos x - 1}$
5. $\lim_{x \to \infty} \frac{e^x}{x^3}$
6. $\lim_{x \to \infty} (e^x - x^4)$
7. $\lim_{x \to \infty} \frac{\ln x}{\sqrt[n]{x}}$, where $n \geq 1$
8. $\lim_{x \to \infty} \frac{e^{(x^2)}}{e^x}$
9. $\lim_{x \to -\infty} (e^x)^{1/x}$
10. $\lim_{x \to 0} (x+1)^{1/x}$