QUIZ 10

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Time: 12 minutes

Problem 1. Compute the limit

$$\lim_{x\to 0} \frac{\sin x - x}{x^3}$$

Problem 2. Sketch the graph of f using all of the following information:

- $f(0) = 0$, $f(2) = -1$, and $\lim_{x\to\infty} f(x) = 1$
- $f'(2) = 0$, $f'(x) < 0$ if $0 < x < 2$, and $f'(x) > 0$ if $x > 2$
- $f''(x) < 0$ if $0 \leq x < 1$ and $x > 4$
- $f''(x) > 0$ if $1 < x < 4$
- $f(-x) = f(x)$