

Math 108-03
Spring 2026
Dr. Lily Yen

Quiz 5

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Number: _____
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Score: ____/10

Problem 1: Consider the following function $f(x) = e^x \cos(x)$. Provide answers for 4 decimal places when appropriate.

- Draw f in the interval $[0, 2\pi]$. Hint: You may need two pictures to show features of f near 0 and further from 0.
- Determine interval(s) where f is decreasing.
- Find all critical numbers (x values), then classify them as local or global extrema with derivative tests.
- Find the absolute maximum point (both coordinates).
- Determine x coordinate(s) of inflection point(s) of f with derivative tests.
- Find interval(s) where f is concave down. Support with derivative tests.

Score: ____/10