MAC 2311 Quiz 6 Lectures 13 - 15

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1. (5 pts) Find the **second** derivative of

$$f(x) = e^x \cos(x)$$

$f'(x) = -e^x \sin(x) + e^x \cos(x) = e^x(\cos(x) - \sin(x))$

$f''(x) = e^x(\cos(x) - \sin(x)) + e^x(-\sin(x) - \cos(x))$

$= -2e^x \sin(x)$

2. (5 pts) Find the **second** derivative of

$$f(x) = 2\sec(x)$$

$f'(x) = 2\sec(x)\tan(x)$

$f''(x) = 2(\sec(x)\tan(x)\tan(x) + \sec(x)\sec^2(x))$

$= 2\sec(x)\tan^2(x) + 2\sec^3(x)$