Math 53 (Multivariable Calculus), Section 102 & 108
Week 2, Wednesday
Aug 31, 2022
For the other materials: seewoo5.github.io/teaching/2022Fall

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1. Find dy/dx and d^2y/dx^2 for the following curves.
   (a) $x = t^3 + 1, y = t^2 - 2$
   (b) $x = e^t + e^{-t}, y = e^{2t} + e^{-2t}$
2. Find the length of the spiral $(e^{-t}\cos t, e^{-t}\sin t)$, where $0 \leq t \leq 2\pi$. What about $0 \leq t < \infty$?
3. Find the area enclosed by the curve $x = t^2, y = t^3 - 3t$.