

Before Class

- Sal explains the connection between concavity and the second derivative of a function. (Take a look at the definition on page 215 of the text if you are unfamiliar with the terms “concave up” and “concave down”.)
https://www.khanacademy.org/math/calculus/derivative_applications/critical_points_graphing/v/concavity-concave-upwards-and-concave-downwards-intervals
- Determine *using the second derivative* where the function $f(x) = x^3 + x^2 - 3x + 1$ is concave up and where it is concave down. The first few minutes of the following video works through a similar example.
<http://www.youtube.com/watch?v=c1N8zyVhWxM>

During Class

- p. 228, # 9, 17