Lara

Math 246:

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3.3 ~~29/32/26/26/16/10/6/2~~ 309

- Ma 410
- Stat 400
- Econ ... (hist.)
- Ma ...
- (Pr) 3000

Intro: (from 1.1 & 1.2)

① what is a diff equat?

An equat involving derivatives.

e.g.: $\frac{dy}{dt} + y = t$

e.g.: $y'' + \sin(xy) = y$.

D.E. = Differential Equat

Goal: To solve meaning to find a fct $y = \ldots$ which make the equat true.

e.g.: $\frac{dy}{dt} = y$ is a D.E. (means a fct which equals its derivative)

A solut is $y = e^t$.

another is $y = 0$

another is $y = 2e^t$

in fact $y = Ce^t$ for any C.

② An example & more definit^{ns}.

ex: $\frac{dp}{dt} = 0.4p - 400$

This is seperable

$\frac{dp}{dt} = 0.4(p - 1000)$

$dp = 0.4(p - 1000)dt$