

Calculus 131, Chapter 11 Summary ~ things you should know

notes by Tim Pilachowski

Important concepts:

separable differential equations

linear first-order differential equations

Euler's Method

systems of differential equations

Be able to:

determine whether a differential equation is separable.

use separation of variables to solve an appropriate DE (via antiderivative, substitution or integration by parts as needed).

determine whether a differential equation is first-order linear.

use the first-order linear process to solve an appropriate DE (via antiderivative, substitution or integration by parts as needed).

Use Euler's Method with a given $\frac{dy}{dx}$ equation, initial condition $y(a) = y_0$ and value for n to estimate a value for $y(b)$.

solve a system of two linear differential equations.

Review exercises from the text:

Chapter 11 Review Exercises, 13 – 36, 38 – 39, 43 – 44, 47 – 48, 50 – 51, 57, 59 – 60