

# ENGG1003 - Thursday Week 8

## Numerical integration

Steve Weller

University of Newcastle

29 April 2021

Last compiled: April 27, 2021 7:18pm +10:00

# Lecture overview

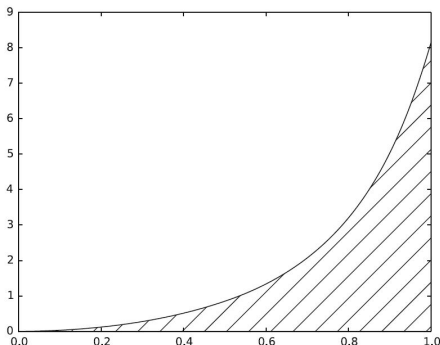
- 1 Basic ideas of numerical integration §6.1
  - ▶ engineering applications
  - ▶ terminology
  - ▶ additivity
- 2 Trapezoidal method §6.2
- 3 Midpoint method §6.3
- 4 Simpson's rule

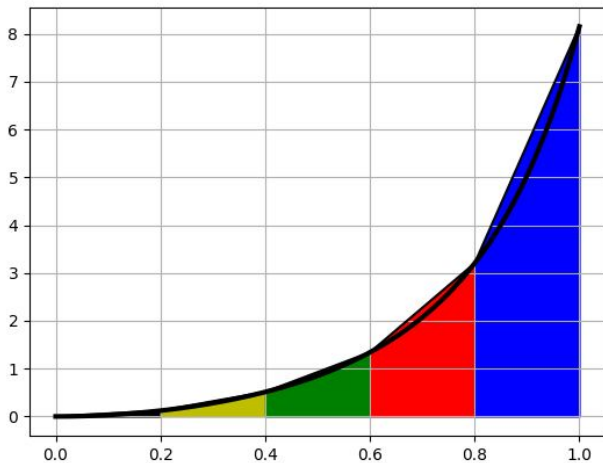
# 1) Basic ideas of numerical integration

- XXX

## 2) Trapezoidal method

- simple four-panel example on pp. 134–135
- Python code for simple example
- use `fill_between` ??





### 3) Midpoint method

- XXX

## 4) Simpson's rule

- XXX

# Lecture summary

- 1 Basic ideas of numerical integration
- 2 Trapezoidal method §6.2
- 3 Midpoint method §6.3
- 4 Simpson's rule