Unit 10: Integrals

Vocabulary and notation

area	dissection	Riemann sum	definite integral
upper Riemann sum	lower Riemann sum	left Riemann sum	right Riemann sum
density	moment	indefinite integral	trapezoidal approximation
signed area	Harmonic sum	piecewise continuous	anti-derivative

Skills

- Be able to use an integral to get an upper and a lower bound on a sum

- Know what variables in an integral are free and bound

- Be able to write an indefinite integral as a function

- Know the trapezoidal approximation

- Understand when the trapezoidal approximation is an upper or lower bound

- Be able to write a lower Riemann, upper Riemann and trapezoidal approximation in Sigma notation

- Know the effect of integration on units

- Know how to use integrals to obtain an area

- Know the difference between area and signed area, and know which is computed by which integral

- Know how to express a volume as an integral

- Know how to compute the definite integral of a function defined by cases

- Know how to integrate a piecewise continuous function