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5.11 Definite integrals

Checklist

What you should know

By the end of this subtopic you should be able to:

- understand the connection between indefinite and definite integral

- understand the Newton-Leibniz formula and be able to use it to find exact values of definite integrals

- find exact values of areas of regions bounded by the graph of $y = f(x)$ and the x-axis
  - be aware that the regions above and below the x-axis needs to be dealt with separately

- find the area of regions between the graph of two functions
  - be aware that several integrals might be needed in case the graphs intersect

- be aware that technology can also be used if an approximate value of the definite integral is enough to answer the question
  - be aware that in certain cases the techniques you have learned may be insufficient to find exact values, so the use of technology is necessary.

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