

O Level A Maths Tutorial 14: Applications of Integration

Syllabus :

- Definite integral as area under a curve
 - Evaluation of definite integrals
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1. Use integration to find the area under each of the following curves.

(a) $y = x$ for $1 \leq x \leq 2$

(b) $y = x^2$ for $1 \leq x \leq 3$

(a) $y = \sin x$ for $0 \leq x \leq \pi$

(a) $y = e^x$ for $1 \leq x \leq 2$

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- Finding the area of a region bounded by a curve and line(s) (excluding area of region between 2 curves)
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2. Find the shaded area.

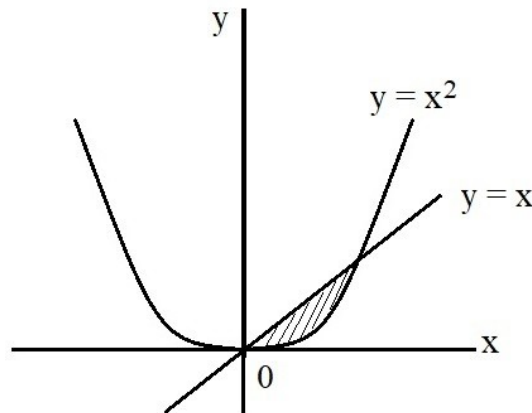


Figure 14-1

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- Finding areas of regions below the x-axis
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3. Find the shaded area. For the part below x axis, use the magnitude (positive value) of the area.

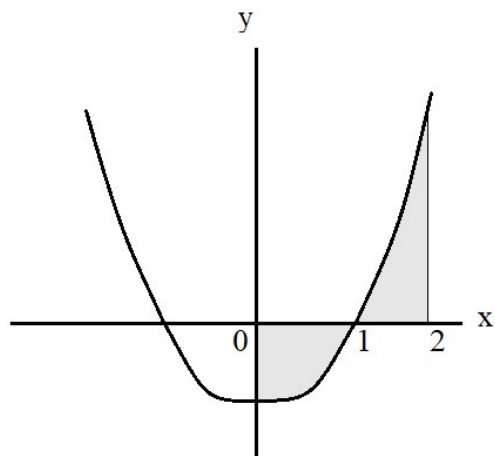


Figure 14-2