

Write your name here

Surname

Other names

**Pearson Edexcel
International GCSE**

Centre Number

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Candidate Number

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Further Pure Mathematics

Paper 1

Monday 19 January 2015 – Afternoon
Time: 2 hours

Paper Reference

4PM0/01

Calculators may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Without sufficient working, correct answers may be awarded no marks.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 100.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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Question 6 continued

A series of horizontal dotted lines for writing.



7 The curve C has equation $y = x^2 + 3$

The point A with coordinates $(0, 3)$ and the point B with coordinates $(4, 19)$ lie on C , as shown below in Figure 3.

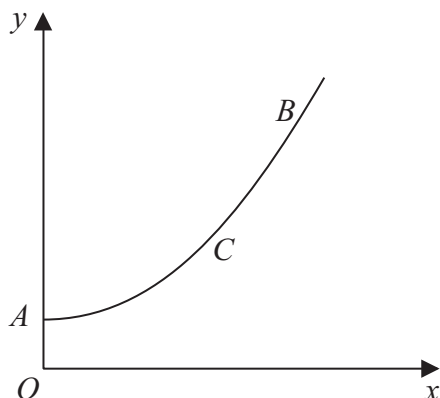


Figure 3

The finite area enclosed by the arc AB of curve C , the axes and the line with equation $x = 4$ is rotated through 360° about the x -axis.

(a) Using algebraic integration, calculate, to 1 decimal place, the volume of the solid generated.

(6)

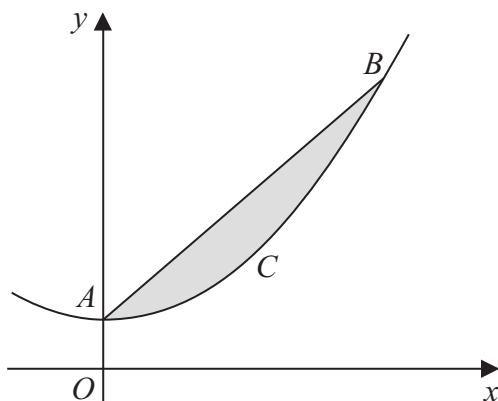


Figure 4

(b) Using algebraic integration, calculate the area of the region between the chord AB and the arc AB of C , shown shaded in Figure 4.

(6)

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