## AQA – Integration – AS Mathematics P2

1. June/2020/Paper\_2/No.9

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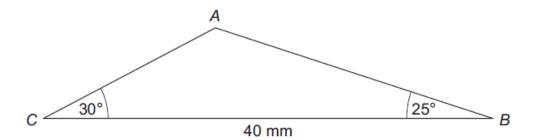
(a) (ii)

|          | $\int (4x - x^3)  \mathrm{d}x$          | [2 marks |
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| Evaluate |   |          |
|          | $\int_{-2}^{2} (4x - x^3)  \mathrm{d}x$ |          |
|          | J-2                                     | [1 mark  |
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| Using a sketch, explain why the integral in part (a)(ii) does <b>not</b> give the are between the curve $y = 4x - x^3$ and the x-axis. | a enclos |
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| between the curve $y = 4x - x^{-1}$ and the x-axis.  | [2 mar   |
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| <b>5</b>   |          |
| Find the area enclosed between the curve $y = 4x - x^3$ and the x-axis.  | [2 ma    |
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## 2. June/2019/Paper\_2/No.5

A triangular prism has a cross section ABC as shown in the diagram below.



Angle  $ABC = 25^{\circ}$ 

Angle  $ACB = 30^{\circ}$ 

BC = 40 millimetres.

The length of the prism is 300 millimetres.

Calculate the volume of the prism, giving your answer to three significant figures.

[4 marks]