OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

MATHEMATICS C   **1966/2342B**
(Graduated Assessment)

INTERMEDIATE TERMINAL PAPER – SECTION B

Tuesday	**7 JUNE 2005**	Afternoon	1 hour

Candidates answer on the question paper.
Additional materials:
    Geometrical instruments
    Pie chart scale (optional)
    Tracing paper (optional)
    Scientific or graphical calculator

Candidate Name	Centre Number	Candidate Number

TIME   1 hour

INSTRUCTIONS TO CANDIDATES

•   Write your name, Centre number and candidate number in the boxes above.

•   Answer **all** the questions.

•   Write your answers, in blue or black ink, on the dotted lines unless the question says otherwise.

•   Read each question carefully and make sure you know what you have to do before starting your answer.

•   There is a space after most questions. Use it to do your working. In many questions marks will be given for a correct method even if the answer is incorrect.

INFORMATION FOR CANDIDATES

•   You are expected to use a calculator in Section B of this paper.

•   The number of marks is given in brackets [ ] at the end of each question or part question.

•   The total number of marks for this Section is 50.

•   Section B starts with question 10.

•   Use the π button on your calculator or take π to be 3·142 unless the question says otherwise.

FOR EXAMINER'S USE	
Section B	

This question paper consists of 12 printed pages.

Formulae Sheet: Intermediate Tier

Area of trapezium $= \frac{1}{2}(a + b)h$
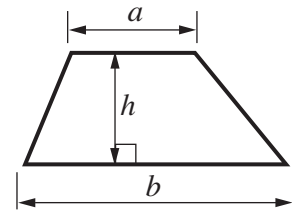
Volume of prism = (area of cross-section) × length
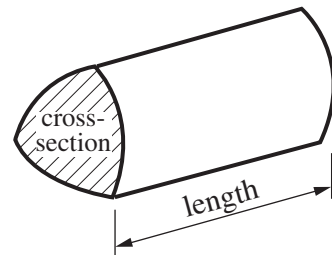
10 In an election, 180 people voted.

The table shows the number who voted for each party.

Party	Number of votes
Labour	36
Conservative	72
Lib. Dem.	45
Independent	27

Draw and label a pie chart to illustrate the data.

[4]

4

[Turn over
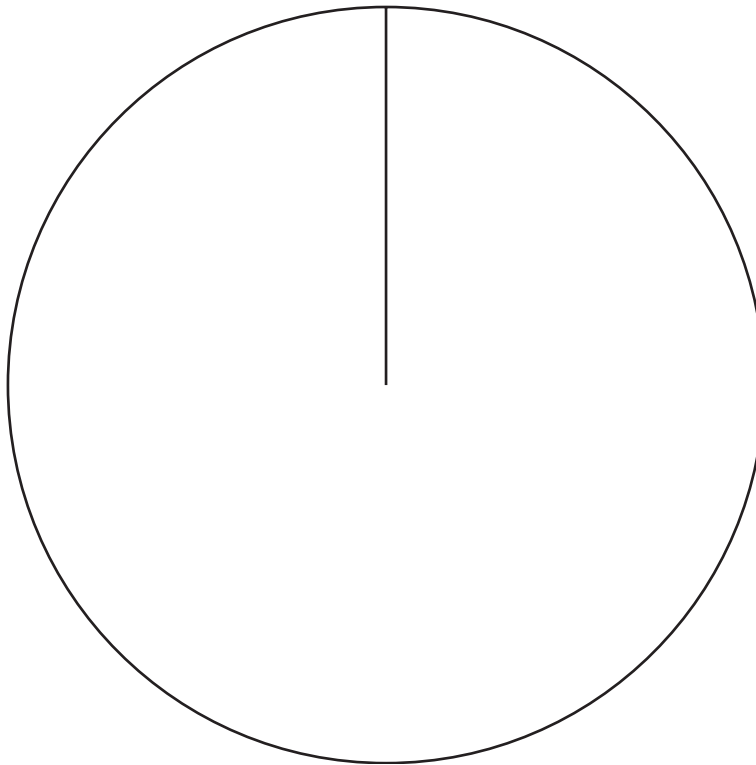
11 (a)
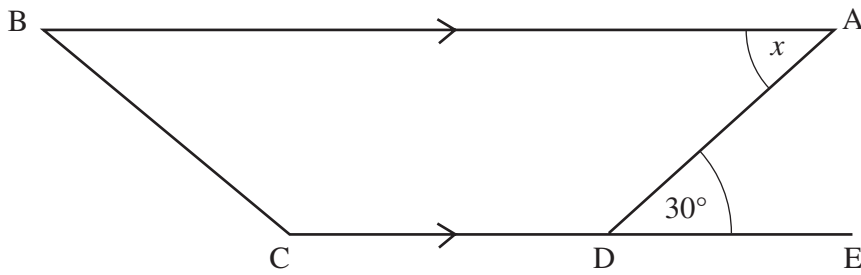
Not to scale

In the diagram BA is parallel to CDE.

Find angle *x*.
Give a reason for your answer.

...................° because ....

....[2]

(b)

Not to scale

The exterior angle of a **regular** polygon is 30°.

Work out how many sides this polygon has.

(b) ....[2]

4

12 (a) Asim buys this television in Birmingham.

VA T is charged at 17·5%.

Calculate how much Asim pays altogether
for the television.

£950
plus VAT

An image has been
removed due to third
party copyright
restrictions

Details:

An image of a television set

(a) £.................................[3]

(b) Asim goes on holiday to Paris.
He sees the same television on sale for €1600 including VAT.
He knows £1 is worth €1·45.

Work out where the television is cheaper, and by how much.
Give your answer in pounds.
Show your working clearly.

(b) It is cheaper in .... by £ .... [3]

6

[Turn over

13 **(a)** Calculate.

$$\frac{124 \cdot 5 + 92 \cdot 62}{26 \cdot 5 - 15 \cdot 85}$$

Give your answer correct to one decimal place.

(a) ....[2]

(b) Calculate.

$$4 \cdot 86 \times 10^{-6} - 4 \cdot 5 \times 10^{-7}$$

Give your answer in standard form.

(b) ....[2]

4

14 **(a)** Paul had his dining room carpeted.

This is part of his bill.

35 m² of carpet at £25·20 per square metre	£................
35 m² of underlay at £................ per square metre	£................
Fittings	£ 12·50
Total	£ 1112·90

Calculate the cost of one square metre of underlay.

(a) £..................................[4]

(b)
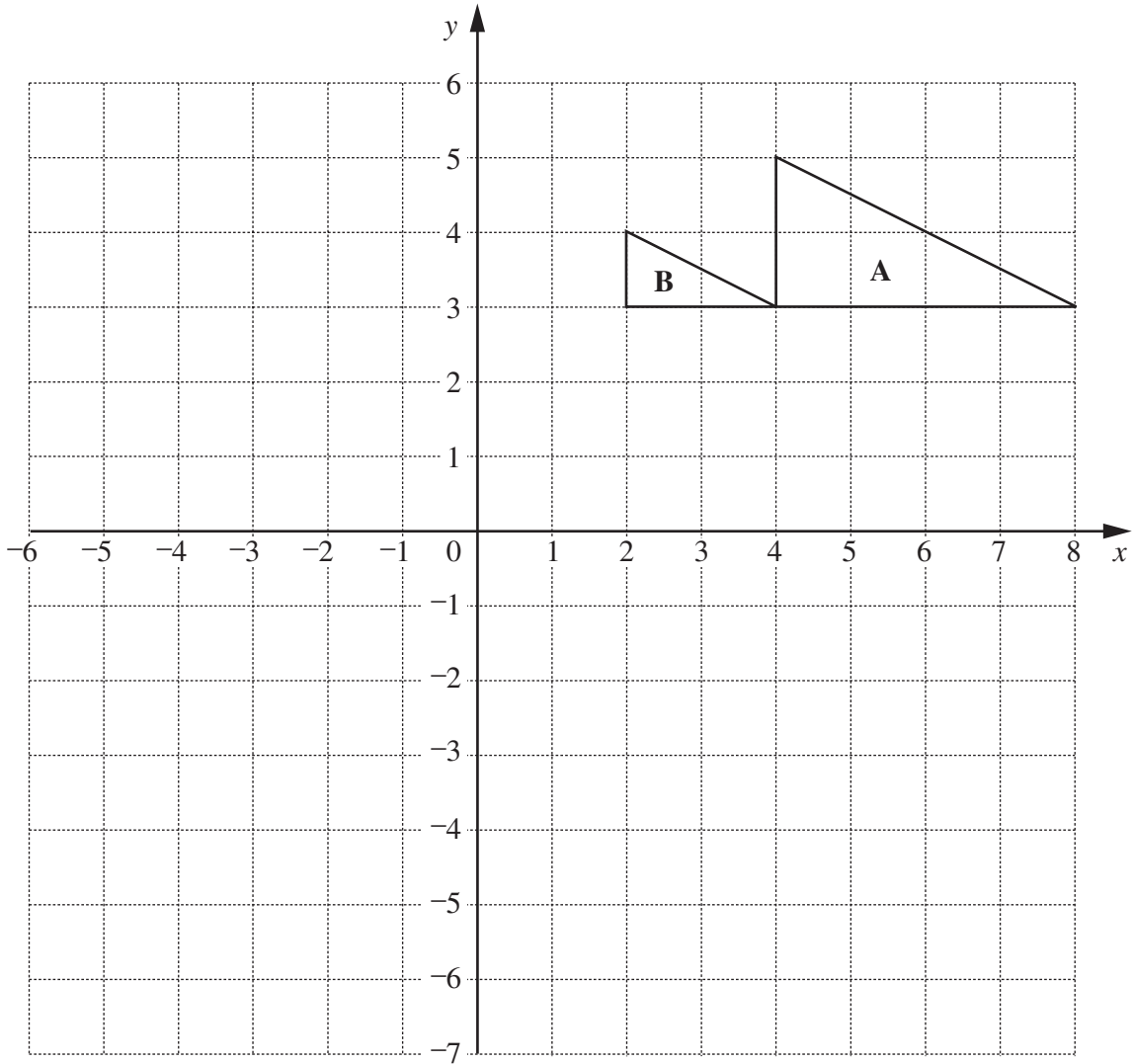
0·5 m   0·5 m

4·8 m

Not to scale

5·2 m
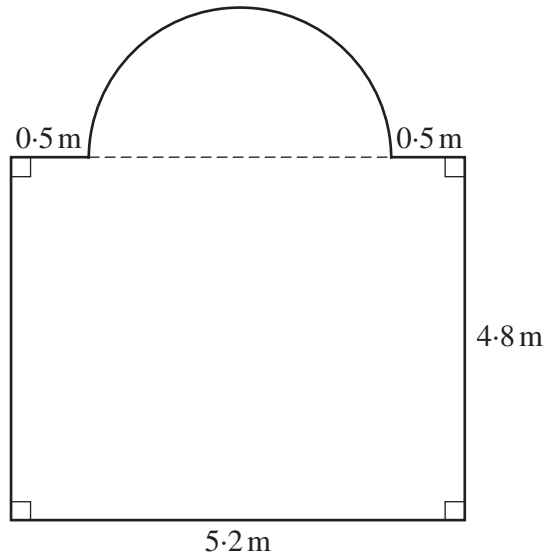
The diagram shows the floor of Paul's bedroom.
The floor is a rectangle and a semicircle.

Calculate the total area of the floor.

(b) ....m^2 [5]

9

[Turn over

15

(a) Translate triangle **A** by $\begin{pmatrix} -6 \\ -5 \end{pmatrix}$.

Label the image **C**.   [2]

(b) Triangle **B** is an enlargement of triangle **A**.

Complete these statements.

(i) The scale factor of the enlargement is ....   [1]

(ii) The centre of enlargement is (............... , ...).   [1]

4

16 **(a)** Solve.

$$7x - 2 = 3x + 1$$

(a) ....[3]

(b) Solve, algebraically, these simultaneous equations.

$$x + y = 3$$
$$3x - 5y = 25$$

(b) $x =$ ....

$y =$ ....[3]

6

[Turn over

17
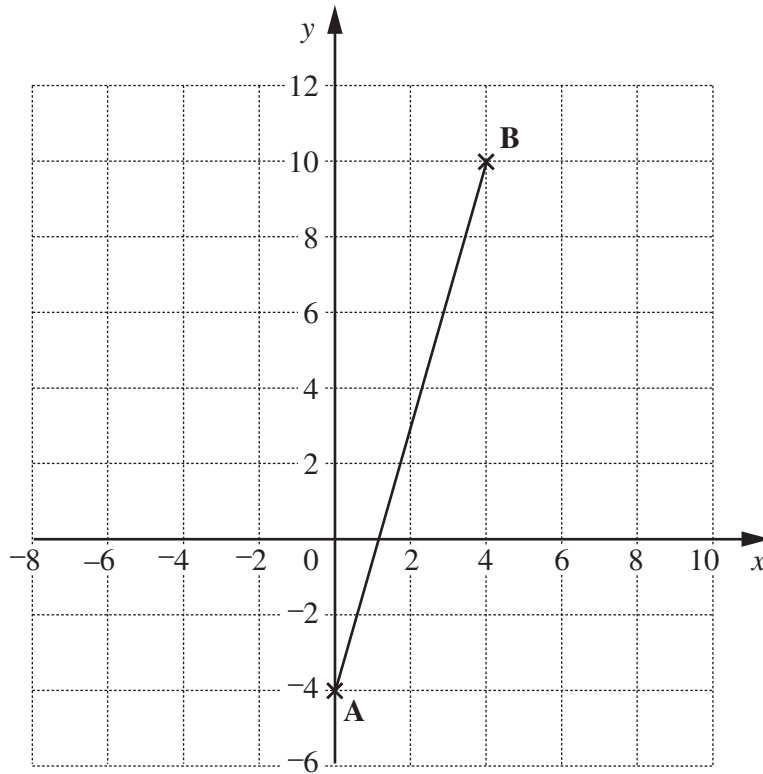
A is the point (0, −4) and B is the point (4, 10).

(a) Write down the coordinates of the midpoint of AB.

(a) (................ , ...) [2]

(b) **Calculate** the length of AB.
Show your working clearly.

(b) ....[3]

(c) Find

    (i) the gradient of the line through A and B,

                                                (c)(i) ....[2]

    (ii) the equation of the line through A and B.

                                                (ii) ....[2]

9	

TURN OVER FOR QUESTION 18

18

M

Not to scale

17·5°

A

B
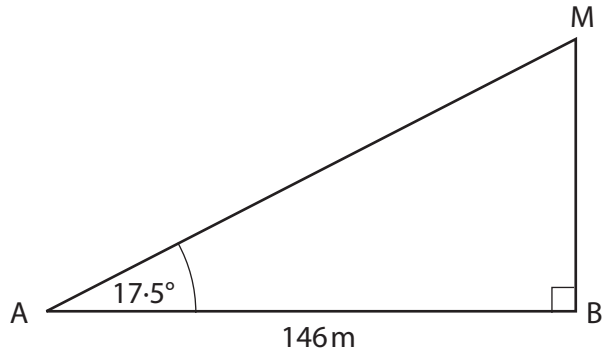
146 m

The diagram shows two points, A and B, on horizontal ground and a vertical mast BM.

AB = 146 m and angle MAB = 17·5°.

Calculate the height of the mast.
Give your answer to a sensible degree of accuracy.

.....................................m [4]

4