OCR
RECOGNISING ACHIEVEMENT

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

MATHEMATICS C (Graduated Assessment)

1966/2342B

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.

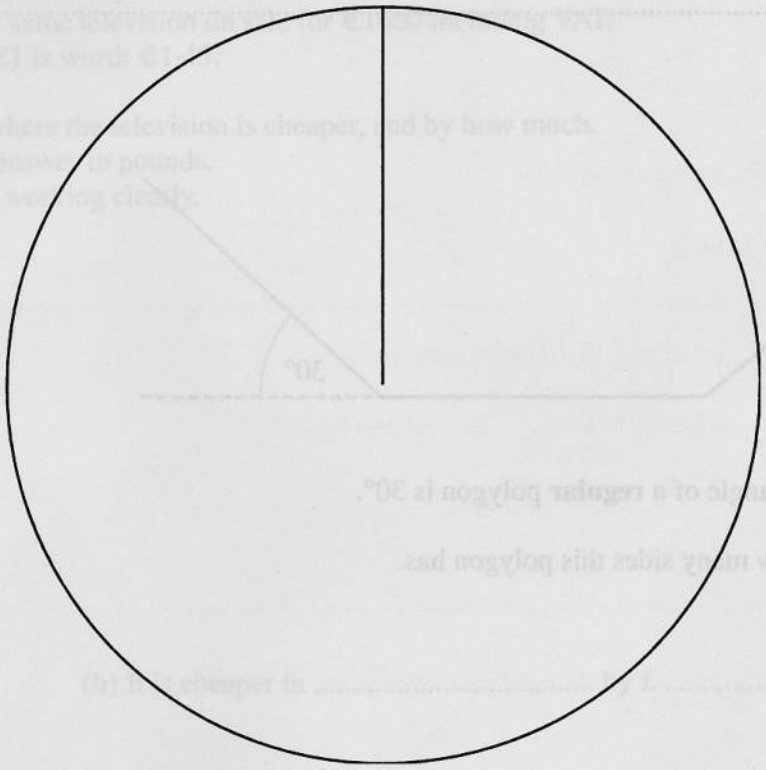
Registered Charity Number: 1066969
[Turn over

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

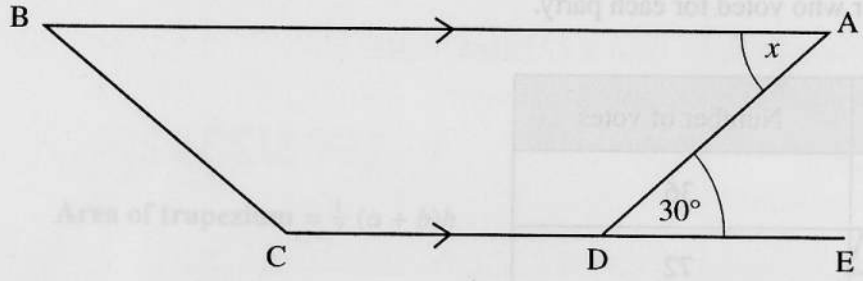
Draw and label a pie chart to illustrate the data.



[4]

4

11 (a)



Not to scale

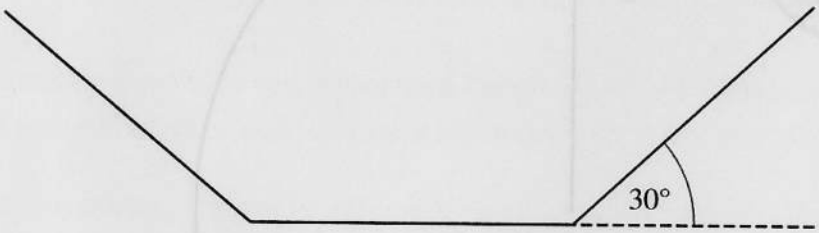
In the diagram BA is parallel to CDE.

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

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.

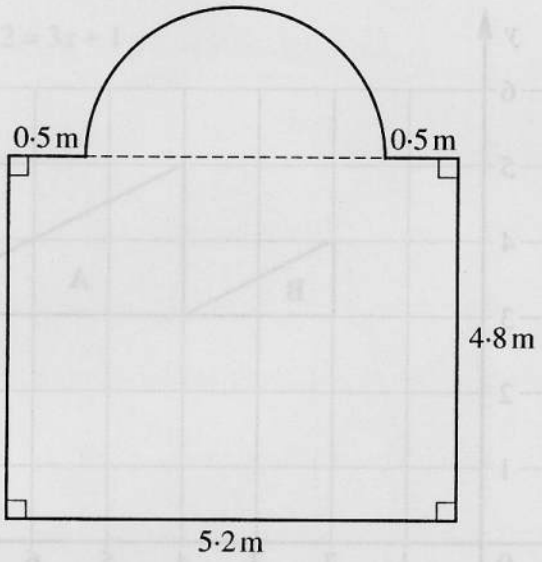
This is part of his bill.

35 m^2 of carpet at £25·20 per square metre	£.....
35 m^2 of underlay at £..... per square metre	£.....
Fittings	£ 12·50
Total	£ 1112·90

Calculate the cost of one square metre of underlay.

(a) £.....[4]

(b)



Not to scale

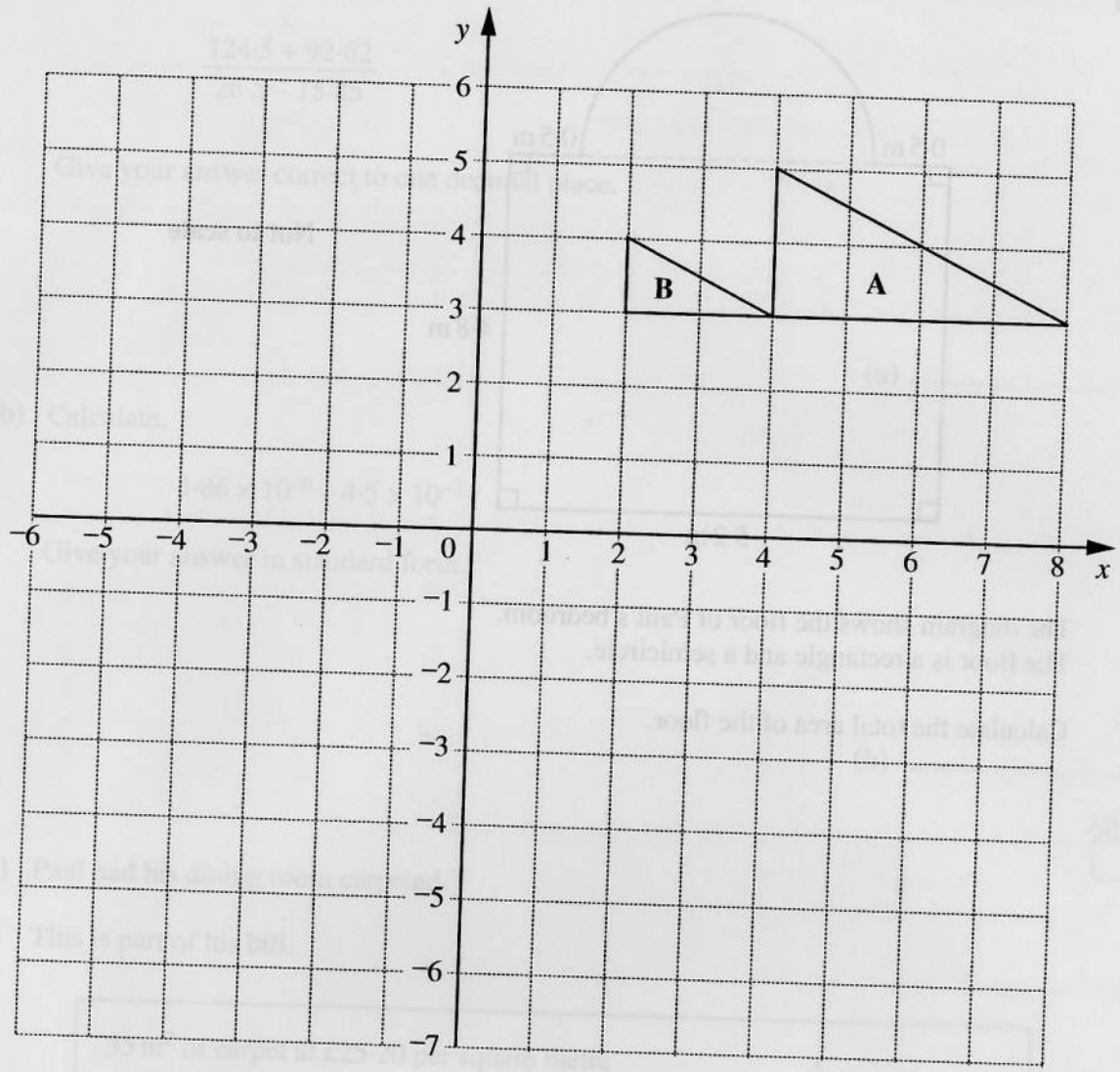
The diagram shows the floor of Paul's bedroom.
The floor is a rectangle and a semicircle.

Calculate the total area of the floor.

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

9

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.

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

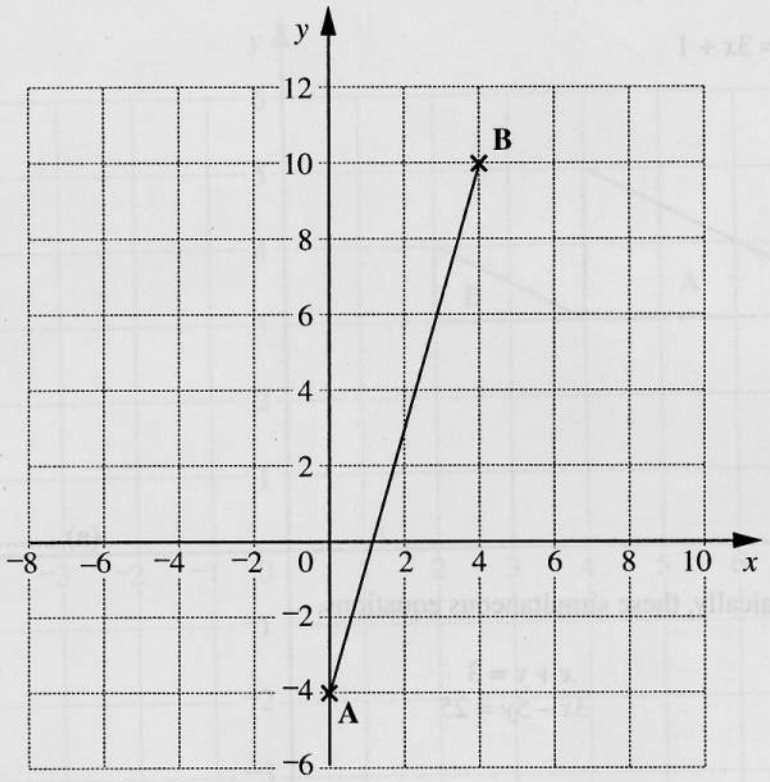
(b) x = ...

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]

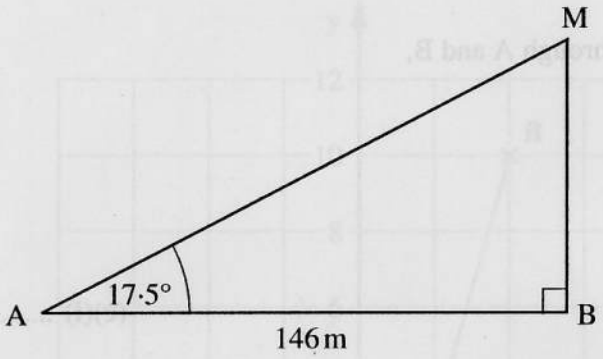
(ii) the equation of the line through A and B.

(ii) .....[2]

9

TURN OVER FOR QUESTION 18

18



Not to scale

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