

Candidate Name	Centre Number	Candidate Number
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GCSE

185/01

MATHEMATICS (2 Tier)

FOUNDATION TIER

PAPER 1

A.M. MONDAY, 19 May 2008

2 hours

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

Calculators are **not** allowed for this paper.

Take π as 3.14.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

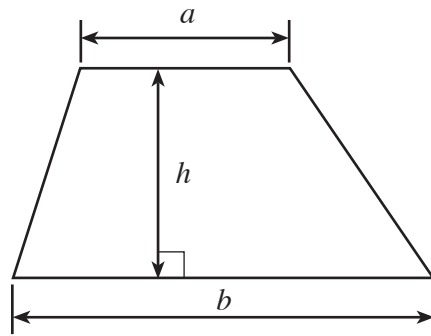
Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

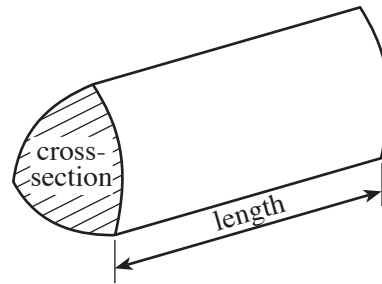
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	7	
2	3	
3	4	
4	4	
5	2	
6	9	
7	4	
8	6	
9	6	
10	9	
11	13	
12	2	
13	5	
14	7	
15	10	
16	6	
17	3	
TOTAL MARK		

Formula List

Area of trapezium = $\frac{1}{2} (a + b)h$



Volume of prism = area of cross-section \times length



1. (a) Only using numbers from the following list

12 4 46 9 24 11 23 3 60 7

write down two numbers which

- (i) add up to 36,
- (ii) have a difference of 23,
- (iii) when multiplied together give an answer of 63,
- (iv) when divided give an answer 15.

[4]

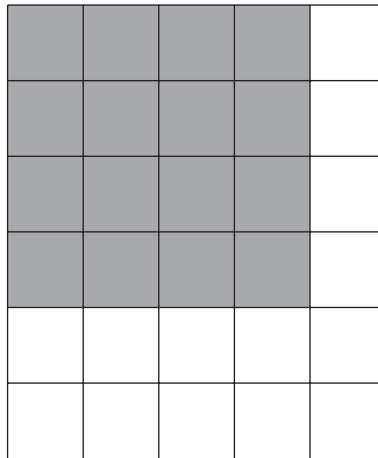
(b) Write, in figures, the number seven thousand four hundred and twenty-five.

.....

[1]

(c) What fraction of the following figure is shaded?
Give your answer, as a fraction, in its simplest form.

[2]



Shaded fraction =

2. Using the list of names given below, write down the correct name of **each** of the shapes shown.

Square

Isosceles triangle

Hexagon

Rectangle

Trapezium

Rhombus

Pentagon

Kite

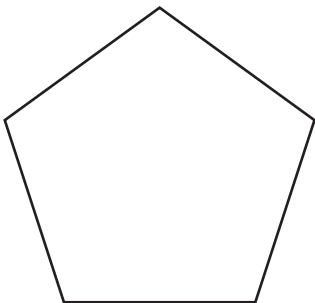
[3]



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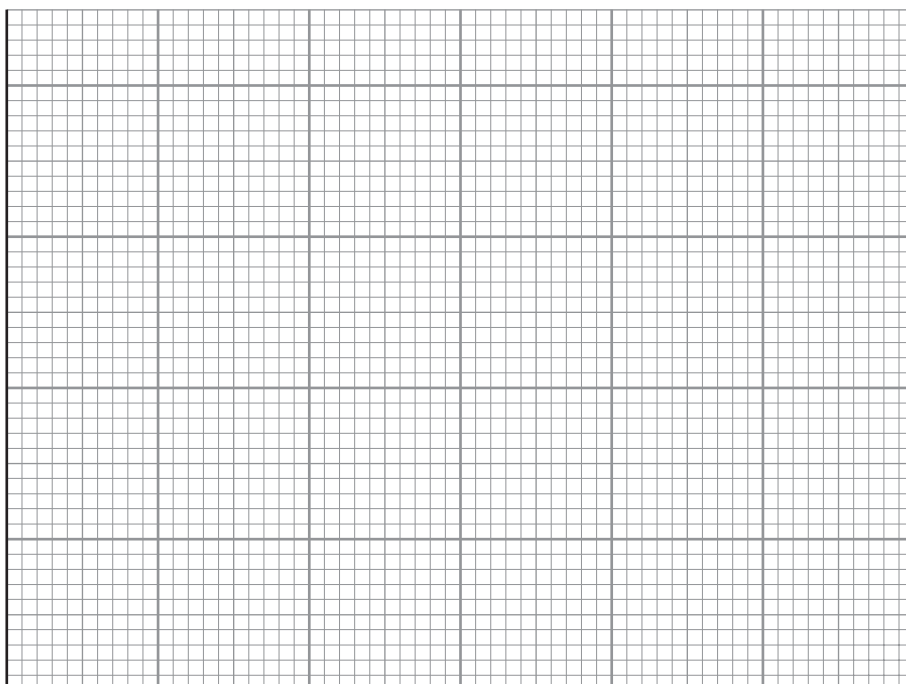
3. Mr. Matthews keeps a record of the marks obtained, by his pupils, in a mental arithmetic test. His results are shown in the following table.

Mark	Number of pupils	Frequency
1	//	
2	/	
3	////	
4	/	
5	//	
6	///	
7	////	
8	//// ///	
9	//	
10	///	

Complete the frequency column in the above table and use this data to draw a suitable bar chart on the graph paper below.


[4]

Mental Arithmetic Test



4. (a)

ABBHEY CAR HIRE



$\text{COST} = \text{NUMBER OF DAYS} \times \text{£}40 + \text{£}50$

John hires a car from Abbey Car Hire.

Find the COST when the NUMBER OF DAYS for which John hires the car is 5.

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[2]

(b) The symbol \triangle is used to make the following patterns.



Pattern 1

Pattern 2

Pattern 3

How many of the symbols, \triangle , would be needed for Pattern 4?

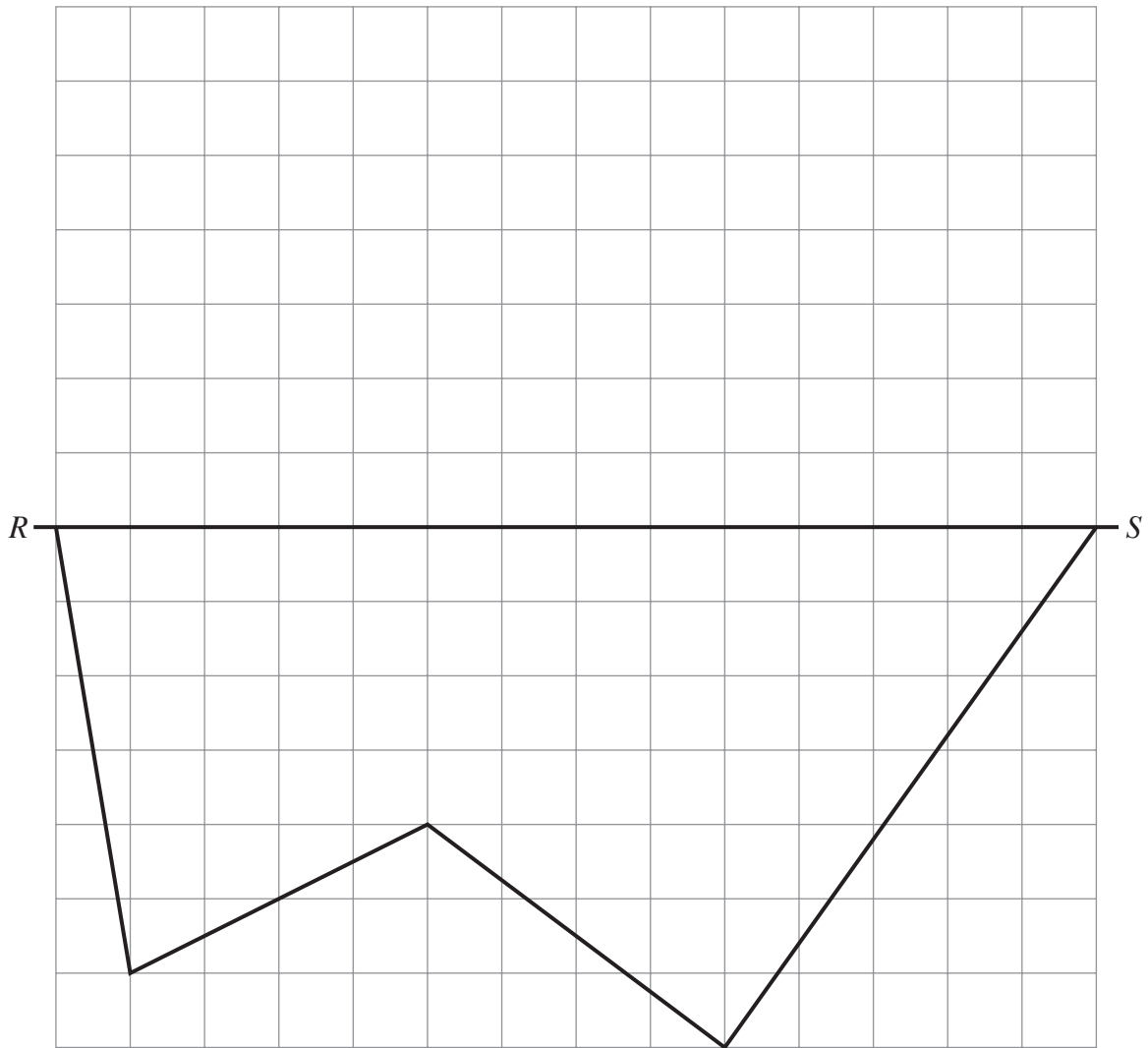
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[2]

5. The following diagram shows part of the plan of a hotel swimming pool. Complete the diagram so that it is symmetrical about the line RS .

[2]



6. (a) Draw a circle around **each** of the following fractions which is equal to $\frac{1}{4}$.

[2]

$\frac{6}{12}$ $\frac{2}{8}$ $\frac{7}{21}$ $\frac{12}{20}$ $\frac{5}{25}$ $\frac{7}{28}$ $\frac{15}{35}$

(b) Claire earns £500 each week.
She uses $\frac{1}{5}$ of the £500 to pay her rent each week.
She saves 25% of the £500 each week.

Tim says that Claire spends more on rent than she saves.

Explain why Tim is wrong.

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[2]

(c) Write 0.5 as a percentage.
Write $\frac{1}{4}$ as a percentage.
Write 0.5, $\frac{1}{4}$ and 60% in ascending order.

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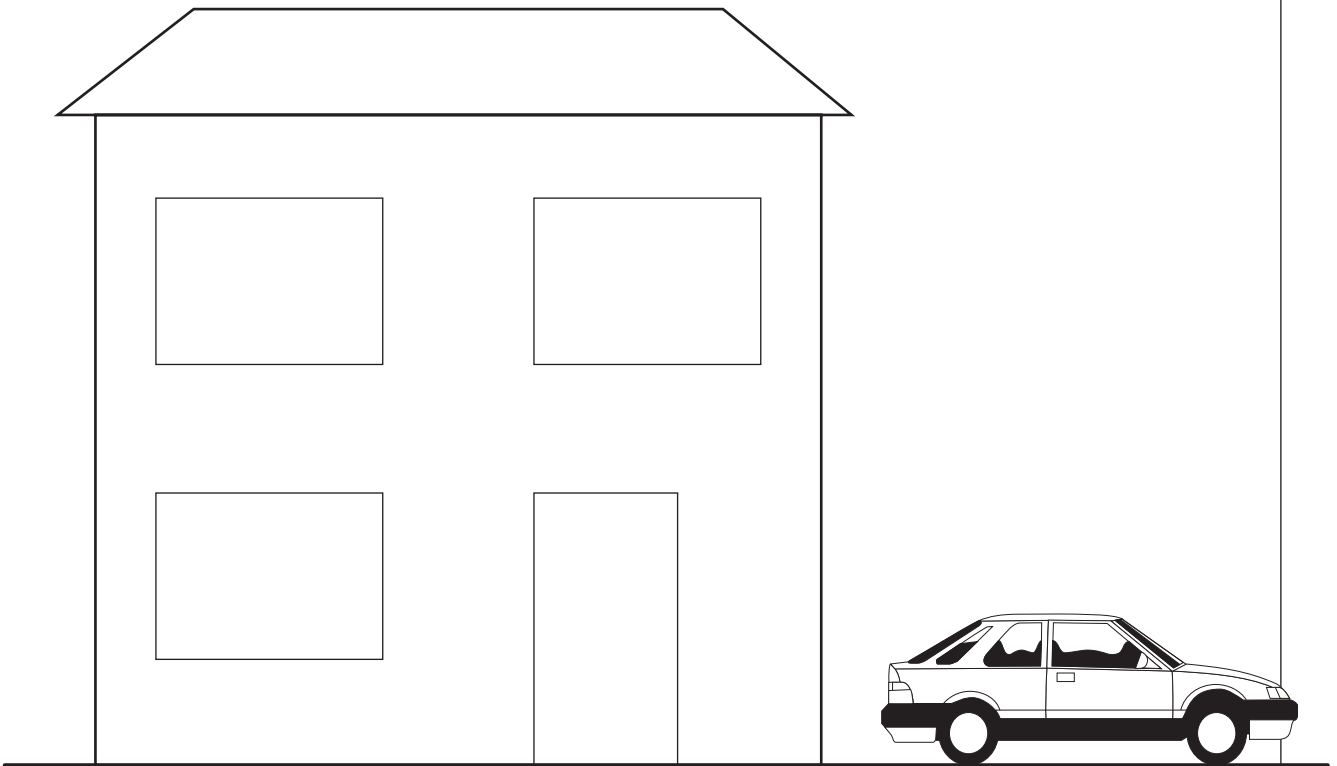
[3]

(d) Tom buys four oranges.
Each orange costs 72p.
Tom pays using a £10 note.
How much change should Tom be given?

[2]

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7.



Diagrams are drawn to scale.

The above diagrams, **which are drawn to scale**, show a drawing of a house and a car.

Write down an estimate for the **actual** height of the car.

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Find an estimate for the **actual** height of the house.

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[4]

8. (a) Andy counted the number of matches in nine different matchboxes. The results were as follows.

48 50 47 45 49 47 46 45 51

- (i) Find the median number of matches in the boxes.

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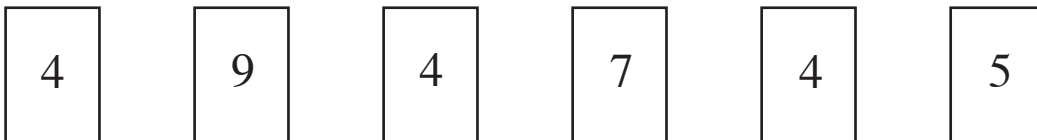
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- (ii) Find the range of the number of matches in the boxes.

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[3]

(b)



One card is chosen at random from the six cards shown above.

Mark the positions of P, Q and R on the probability scale given below, where

P is the probability of the number on the card being 4,

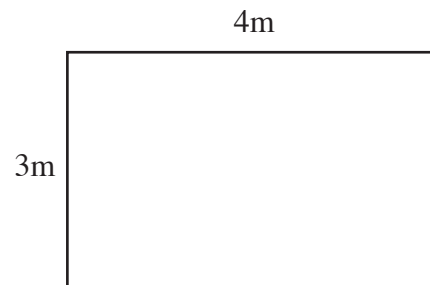
Q is the probability of the number on the card being less than 10,

R is the probability of the number on the card being greater than 8.

[3]



9.



Jenny decides to fit new carpet in the lounge. The lounge is in the shape of a rectangle measuring 4m by 3m.

- (a) Find the area of the lounge in m^2 .

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[2]

- (b) Jenny chooses a carpet which costs £15 per square metre. There is a charge of £35 for fitting the carpet.
How much does Jenny have to pay to buy her new carpet and have it fitted?

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[4]

10. (a) Find the size of the angle marked x .

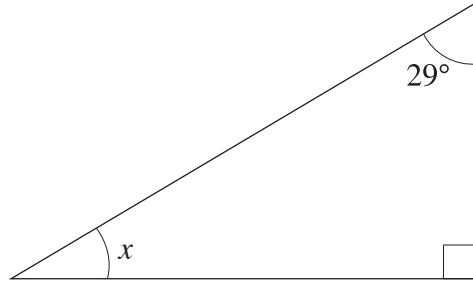


Diagram not drawn to scale.

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$x = \dots\dots\dots^\circ$

[2]

(b) Find the size of the angle marked y .

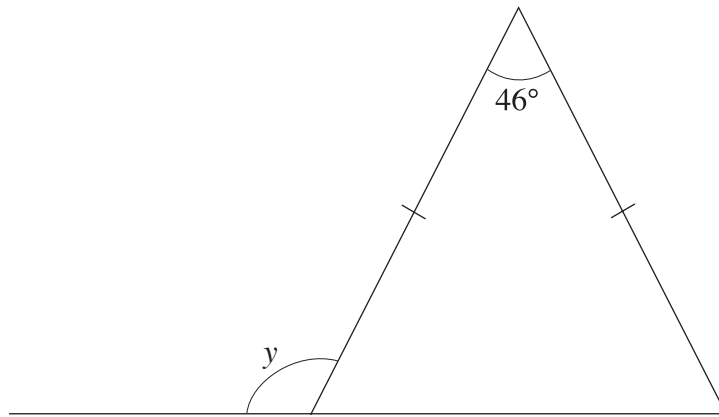


Diagram not drawn to scale.

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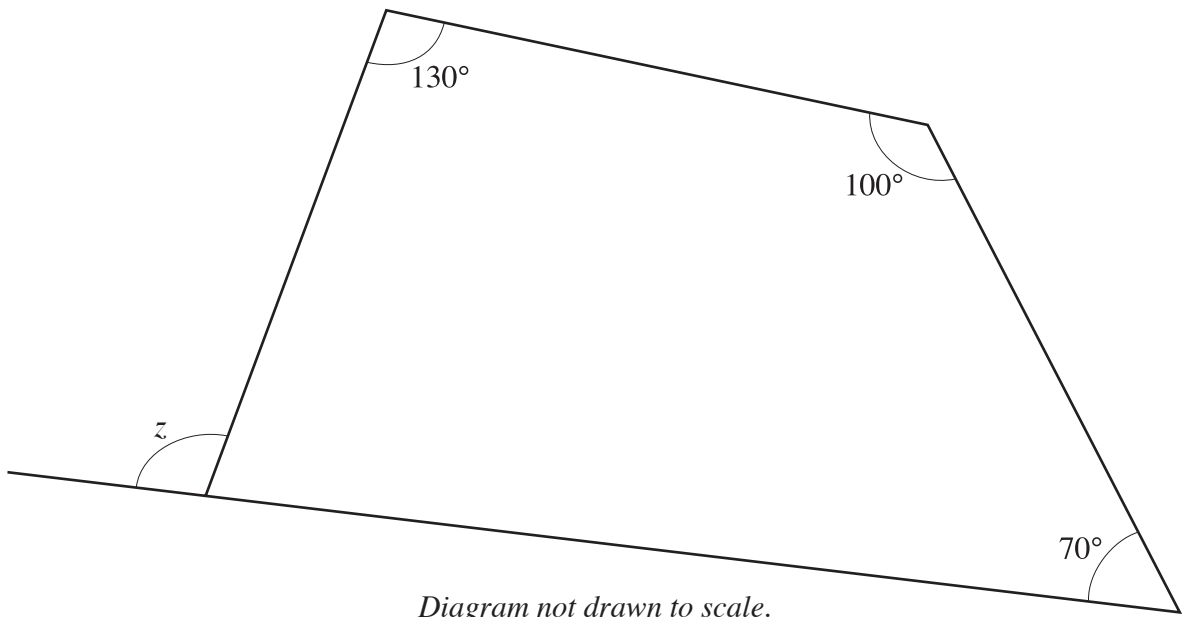
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$y = \dots\dots\dots^\circ$

[3]

(c) Find the size of the angle marked z .



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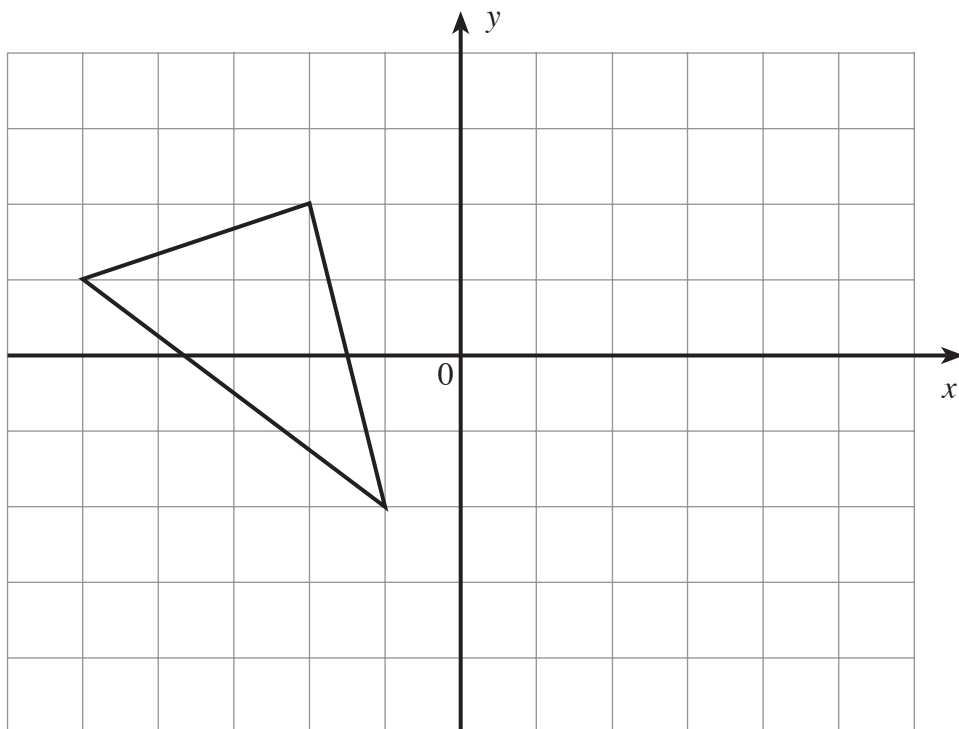
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$z = \dots\dots\dots^\circ$

[3]

(d) Draw the reflection of the given triangle in the y-axis.

[1]



11. (a) Find the value of 372×34 .

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[3]

- (b) Write

(i) 0.0381 correct to 2 decimal places,

(ii) 479.8874 correct to 3 decimal places.

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[2]

- (c) Find the value of $2^3 \times 3^2$.

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[2]

- (d) Find the value of

$$\frac{8}{9} - \frac{2}{3}$$

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[2]

(e) From the following list of numbers

15 17 27 36 54 21 39

write down

(i) a prime number,

(ii) a cube number.

[2]

(f) Write down the value of

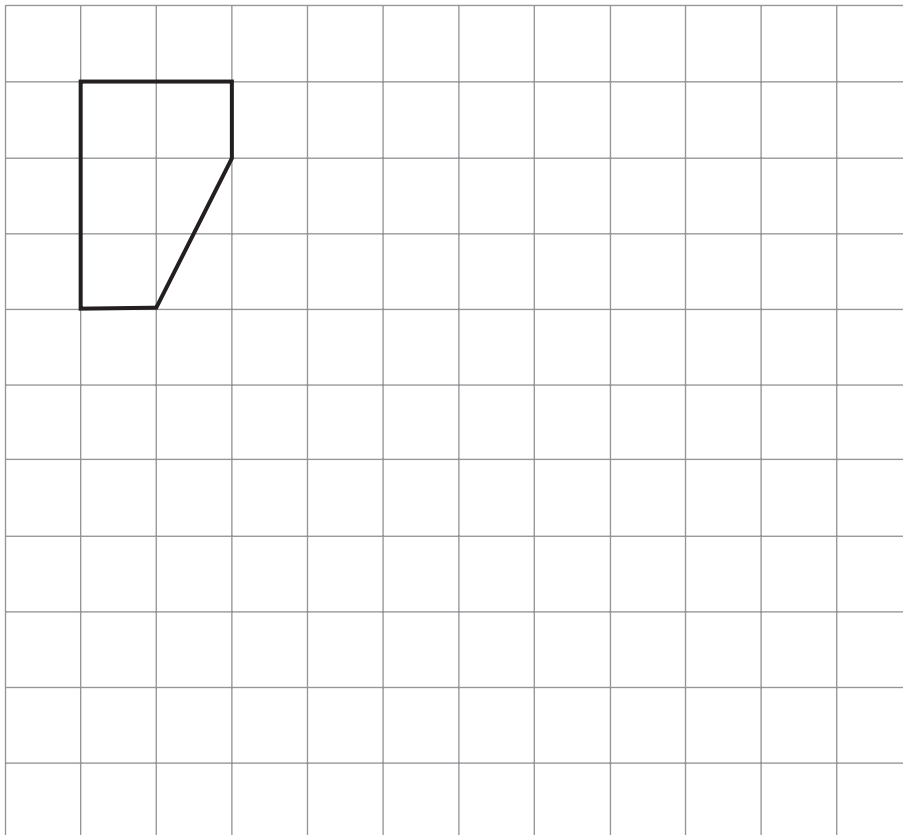
(i) 0.3×0.7 ,

(ii) $4.7 - 3.52$

[2]

12. Enlarge the following figure by a scale factor of 3.

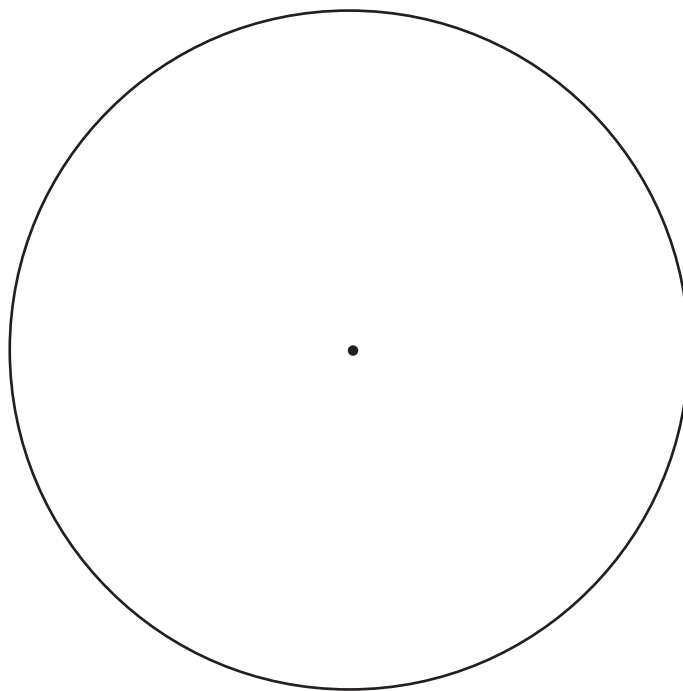
[2]



13. (a) John carried out a survey in his school to find the numbers of pupils living in houses with 2, 3, 4, or more than 4 bedrooms. The results of his survey are shown in the following table.

Number of bedrooms	Number of pupils
2	25
3	35
4	20
More than 4 bedrooms	10

Draw a pie chart to illustrate these results. You should show how you calculate the angles of your pie chart.



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[4]

- (b) The probability of a boy, chosen at random, in Sian's class having blue eyes is 0.2. Sian says "The probability of a boy in my class not having blue eyes is 0.9". Explain why Sian is wrong.

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[1]

14. (a) The angles of a quadrilateral are x° , 49° , $3x^\circ$ and 111° .
Form an equation in x , and use your equation to find the value of x .

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[4]

- (b) Find the size of **each** of the angles marked x and y in the following diagram.

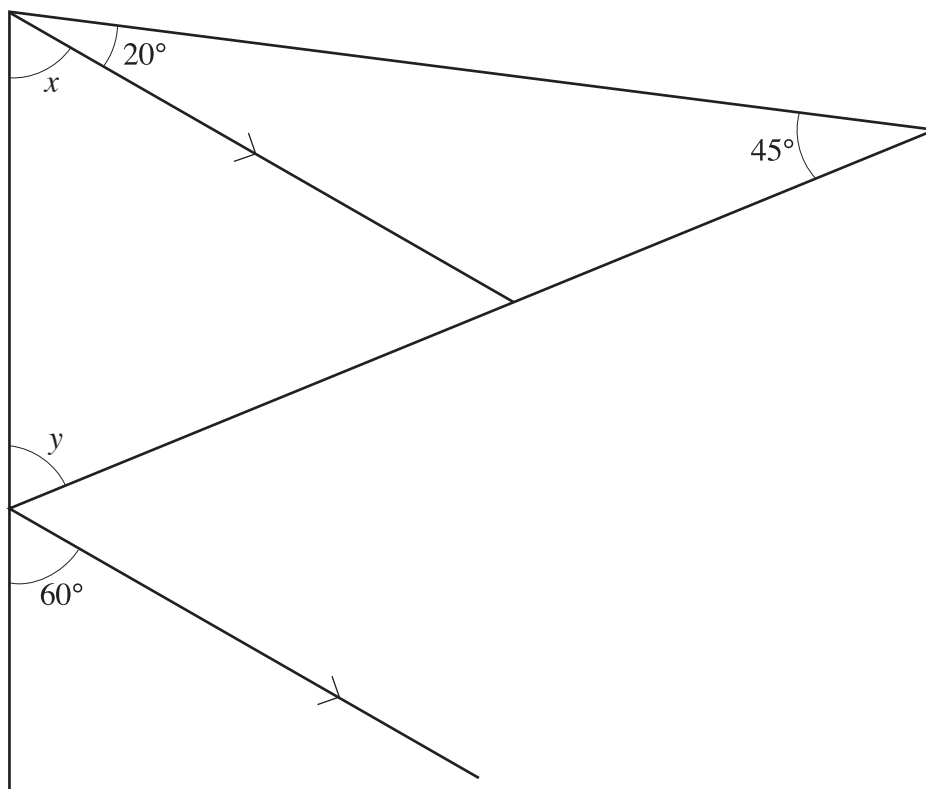


Diagram not drawn to scale.

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$x = \dots\dots\dots^\circ$ $y = \dots\dots\dots^\circ$

[3]

15. (a) Solve **each** of the following equations.

(i) $7x + 4 = 3x + 16$

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(ii) $3x + 2 = 2(3 - 2x)$

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[6]

(b) Simplify **each** of the following.

(i) $2(3r + 1) + 5r$

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(ii) $3(2p + 3) - 2(p - 1)$

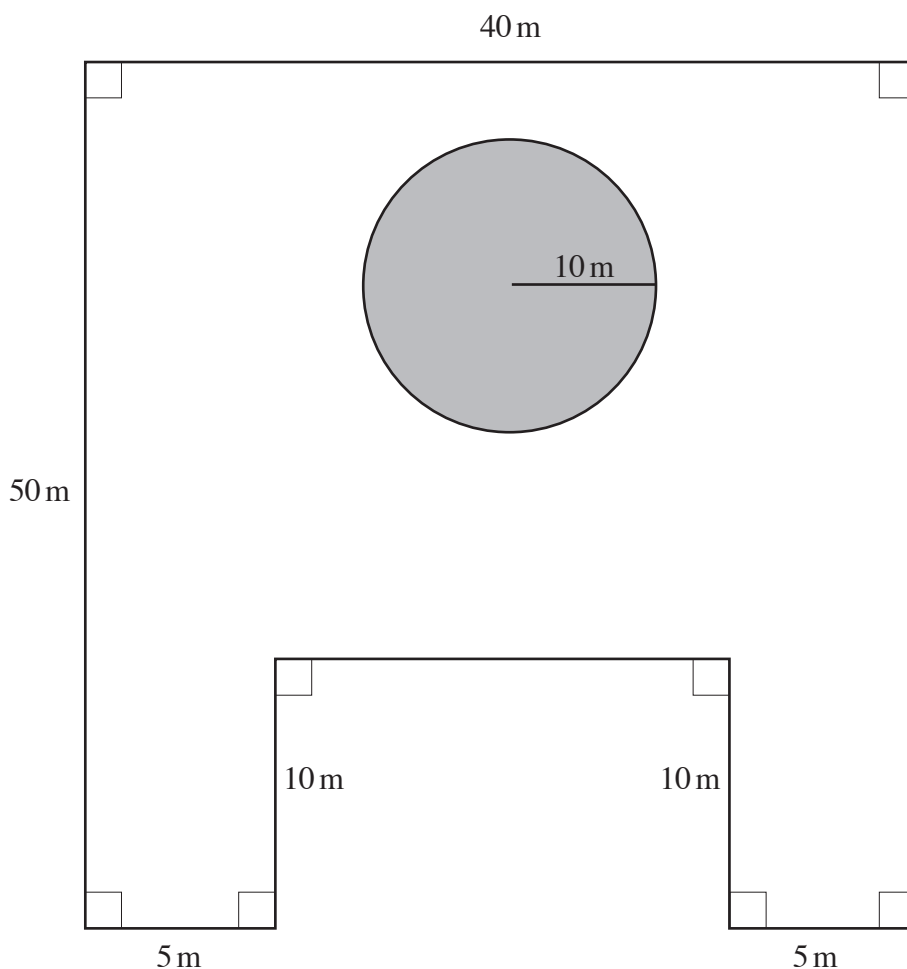
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[4]

16. The following diagram shows a paved area with a circular pond of radius 10 m.



Using the value of π as 3·14, calculate the area of the paved surface clearly indicating the units of your answer.

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[6]

17. Showing all your working, estimate the value of:

$$\frac{601.9 \times 19.94}{0.305}$$

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[3]