

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Pages	Mark
2–3	
4–5	
6–7	
8–9	
10–11	
TOTAL	

In the style of



General Certificate of Secondary Education
Foundation Tier

Mathematics

43601F

Past Paper Questions by Topic

Geometry

F

For this paper you must have:

- mathematical instruments.

You must **not** use a calculator.



Time allowed

- 1 hour 15 minutes

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.

Information

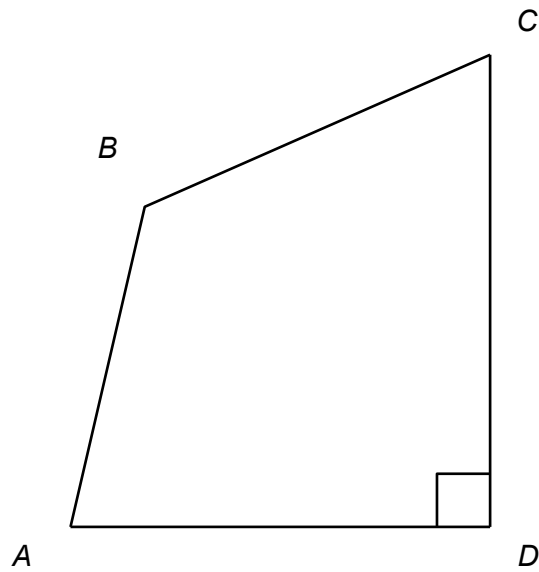
- The marks for questions are shown in brackets.
- The maximum mark for this paper is.
- The quality of your written communication is specifically assessed in questions indicated with an asterisk (*)
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer booklet.

Advice

- In all calculations, show clearly how you work out your answer.

1

$ABCD$ is a quadrilateral.



Complete each sentence using a letter.

Angle is a right angle.

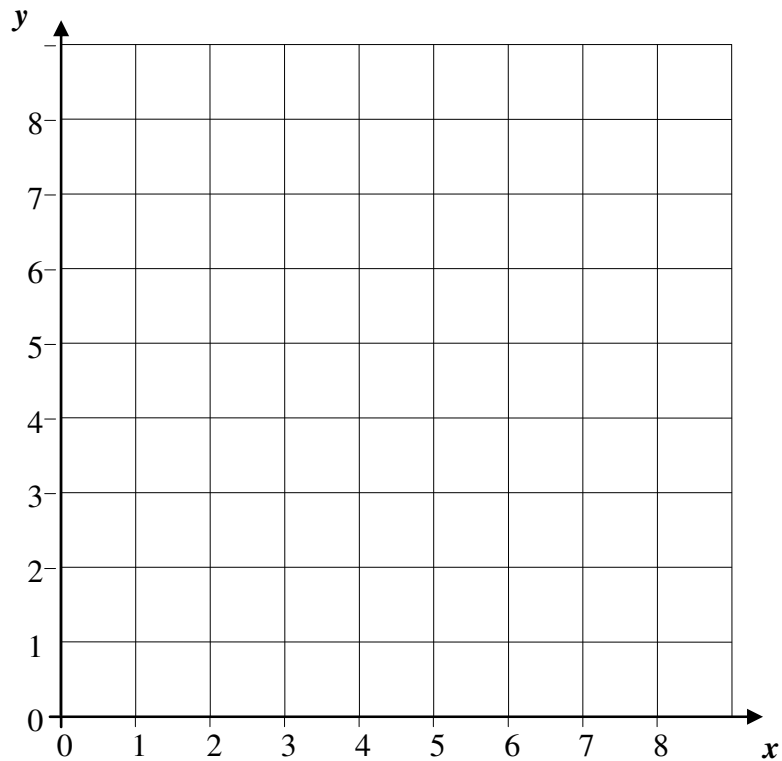
Angle is an obtuse angle.

Angle is an acute angle.

(2 marks)



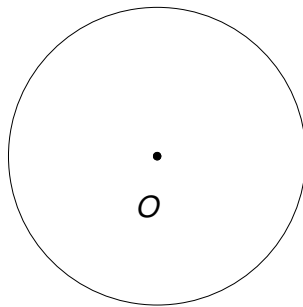
2 Here is a centimetre grid.



2 (a) On the grid, draw a circle of radius 3 centimetres with centre (5, 4).

(2 marks)

2 (b) Here is a circle, centre O .



2 (b)(i) Mark with a cross a point on the circumference.

(1 mark)

2 (b)(ii) Draw a diameter.

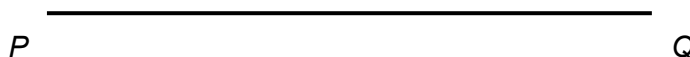
(1 mark)

2 (b)(iii) Draw a tangent.

(1 mark)

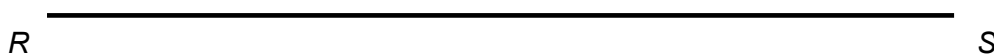


3 (a) Measure the length of line PQ in centimetres.



Answer cm (1 mark)

3 (b) The length of line RS is 12 centimetres.



T is a point on RS

RT is $\frac{1}{4}$ of RS .

Work out the length of RT .

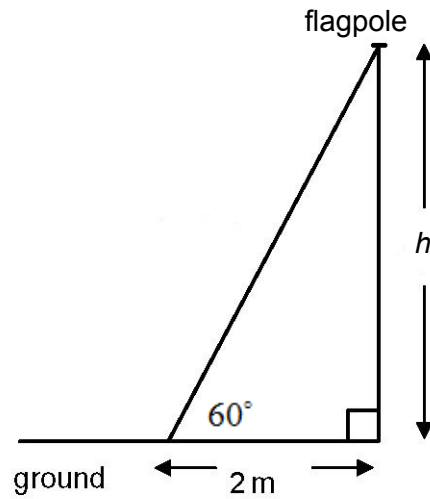
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Answer cm (3 marks)



- 4 The diagram shows a vertical flagpole. From 2 metres away the top of the flagpole is 70° from the ground.

Not drawn accurately



Make a scale drawing of this diagram.

The ground has been drawn for you.

Use a scale of 2 cm to represent 1 metre.

What is the height h ? Show your answer on your scale drawing.

(3 marks)

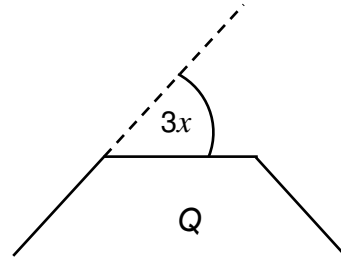
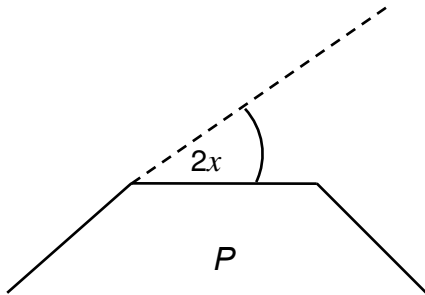


5

The diagram shows parts of two regular polygons P and Q .

P has 12 sides and exterior angle $2x$.

Q has exterior angle $3x$.



Not drawn accurately

Work out the number of sides of regular polygon Q .

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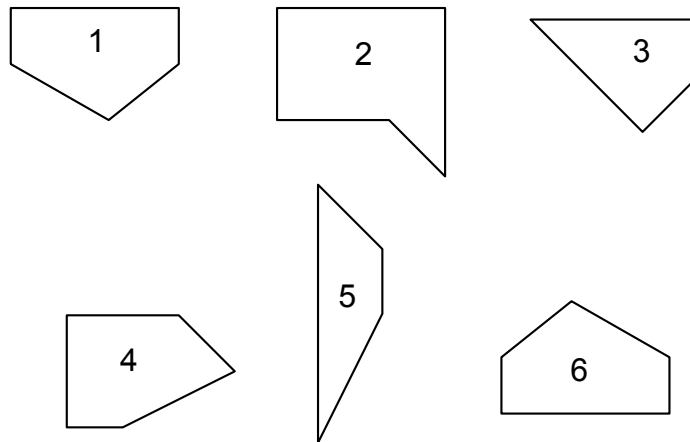
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Answer (5 marks)



6(a) Here are some shapes.



Which two shapes are congruent?

Answer..... and (1 mark)

6(b) Tick whether each of the following statements is always true, sometimes true or never true.

Congruent shapes have the same perimeter.

Always true

Sometimes true

Never true

Congruent shapes have the same area.

Always true

Sometimes true

Never true

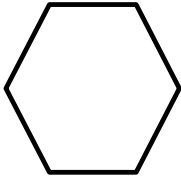
(2 marks)



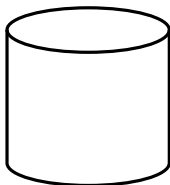
7 (a) Write down the mathematical name of each of the following.



.....



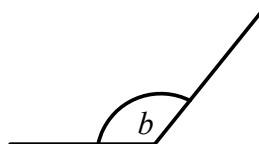
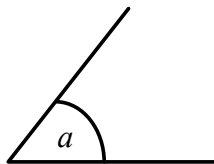
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(3 marks)

Here are two angles, a and b .



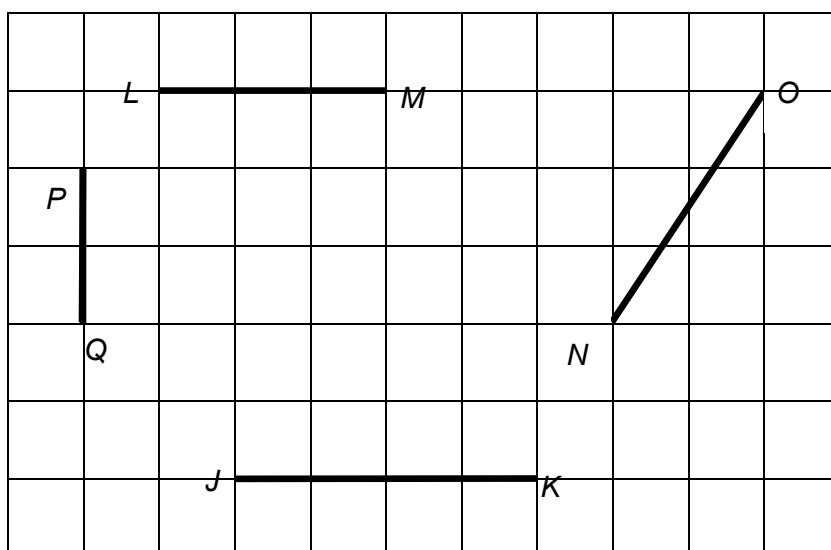
7 (b) What type of angles are they?

Answer a is.....

b is (2 marks)



8 Here are some lines drawn on a grid.



8(a) Measure the length of NO .

Answer cm (1 mark)

8(b) Which line is parallel to LM .

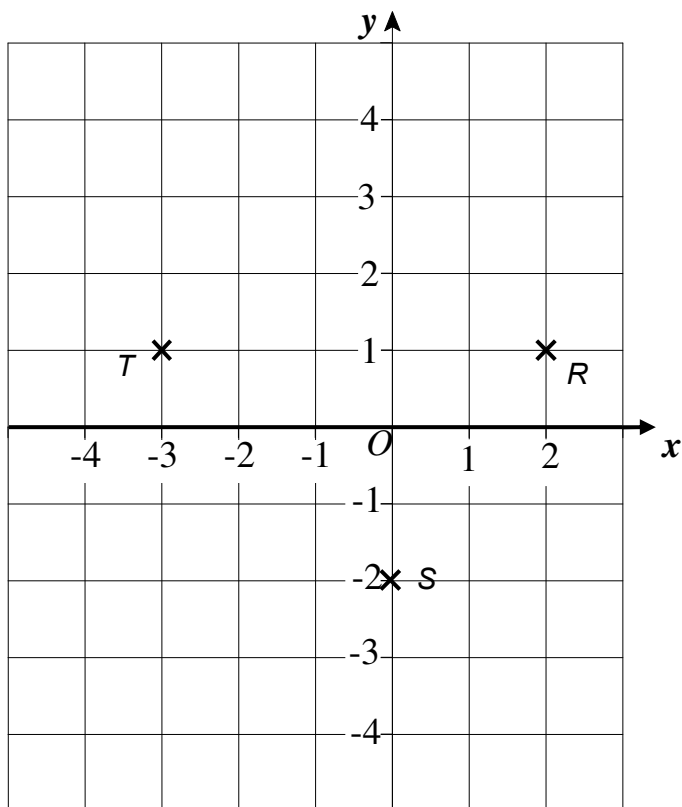
Answer (1 mark)

8(c) Draw a line at right angles to JK .

(1 mark)



- 9 Points R , S and T are plotted on the grid.
They are three of the four corners of a quadrilateral.



- 9(a) Write down the coordinates of the point T .

Answer (.....,) (1 mark) Å

- 9(b) Tick whether each of the following statements is true or false.

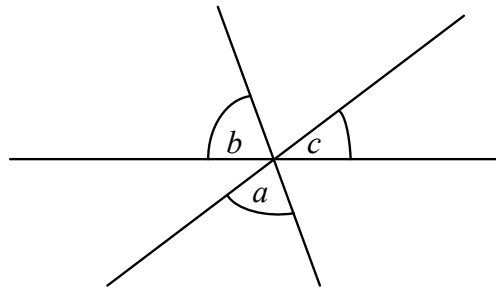
	True	False
It is possible to plot point U so that $RSTU$ is a square.	<input type="checkbox"/>	<input type="checkbox"/>
It is possible to plot point U so that $RSTU$ is a rectangle.	<input type="checkbox"/>	<input type="checkbox"/>
It is possible to plot point U so that $RSTU$ is a parallelogram.	<input type="checkbox"/>	<input type="checkbox"/>

(2 marks)



10

Three straight lines meet at a point as shown.



Not drawn accurately

$$b = 80^\circ$$

c is 40% of b .

Work out the size of a .

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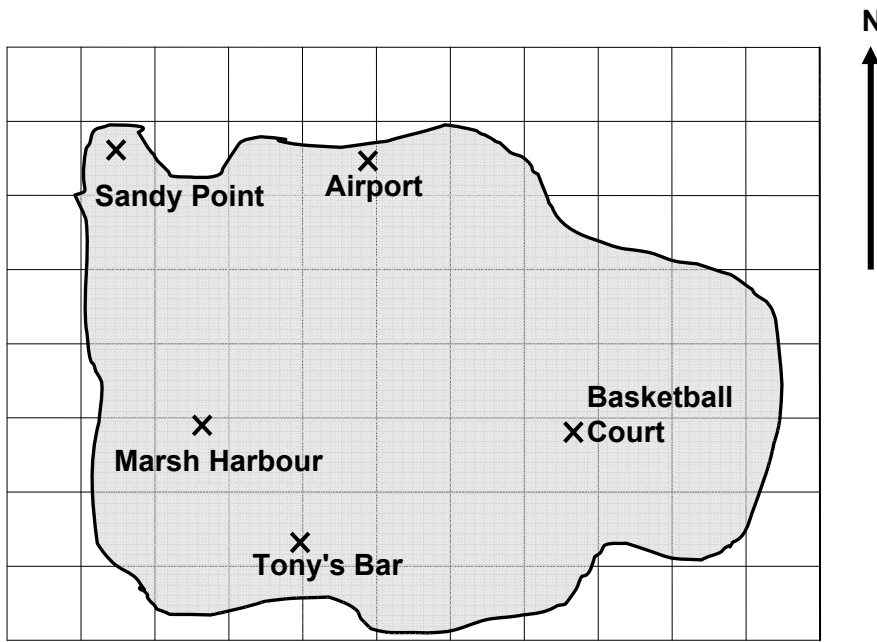
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Answer degrees (4 marks)



11 The diagram shows the map of an island drawn on a grid.

Each square represents 10 000 m².



11 (a) Estimate the area of the island.

Give your answer in square metres.

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Answer m² (4 marks)

11 (b) Measure the bearing of the Tony's Bar from the Airport.

Answer (1 mark)

11 (c) A Baseball Stadium is on a bearing of 200° from the Airport and 070° from Marsh Harbour

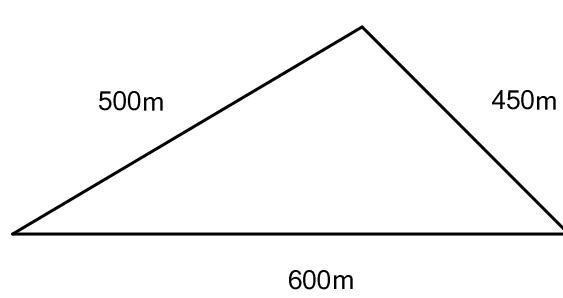
Mark with a cross the position of the Baseball Stadium on the map.

(3 marks)



12

Here is a triangle.



Not drawn
accurately

Using ruler and compasses only, construct an accurate scale drawing of the triangle.
Use the scale 1 cm represents 50 m.

(3 marks)



13(a) Here is a formula for the perimeter, P , of a rectangle.

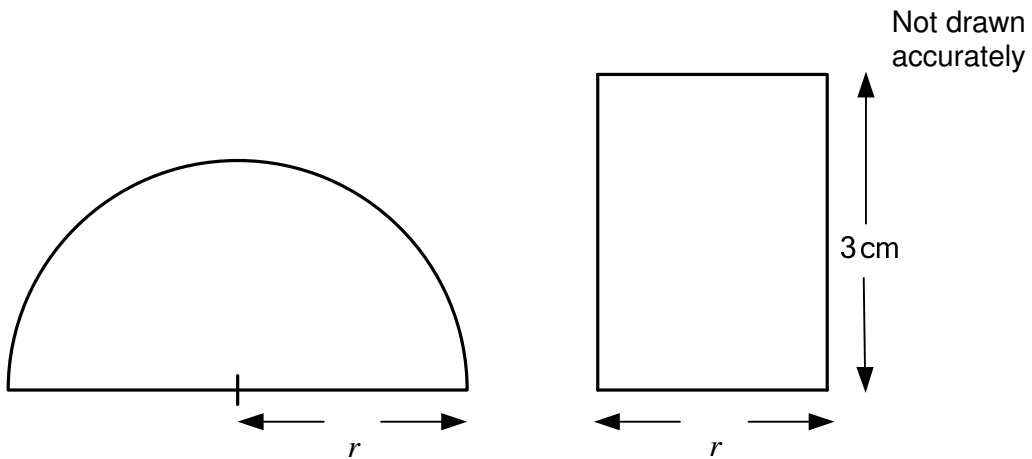
$$P = 2L + 2W$$

Work out L when $P = 30$ cm and $W = 4$ cm

.....
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Answer cm (3 marks)

13(b) The diagram shows a semi-circle, radius r , and a rectangle.



The perimeters are equal.

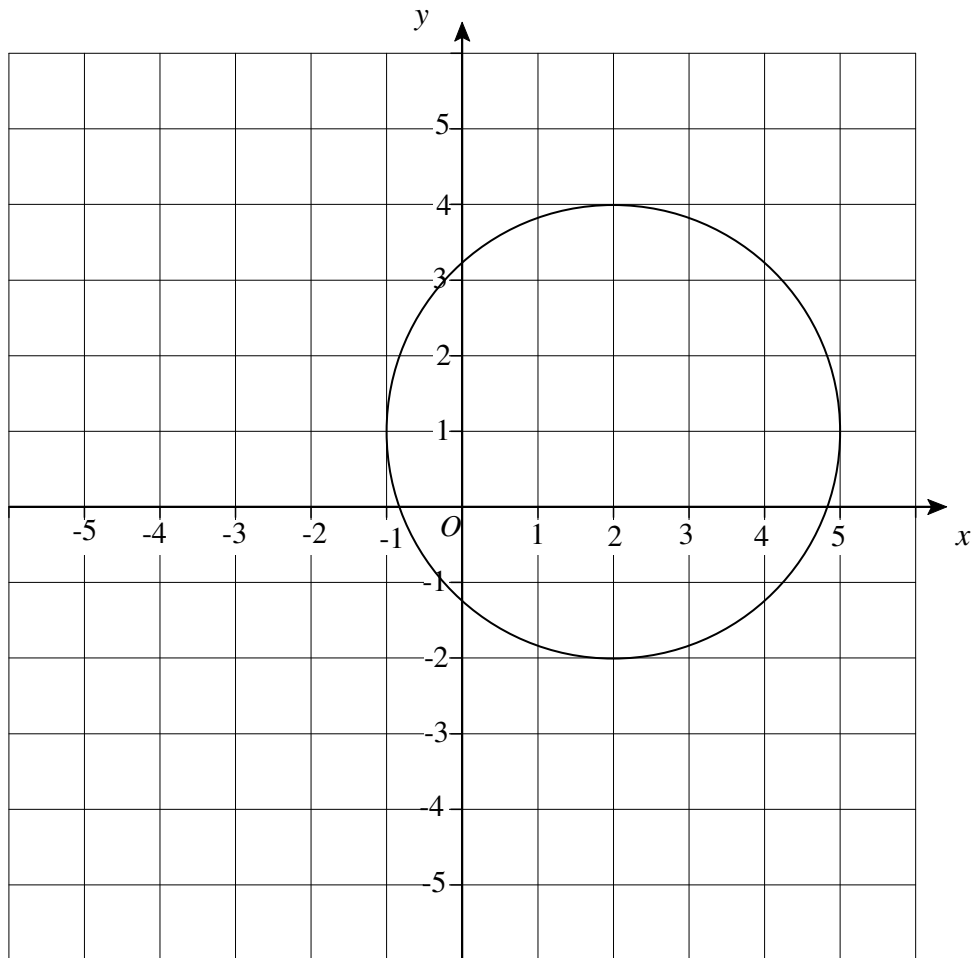
Work out the value of r .

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Answer cm (4 marks)



14 The diagram shows a circle on a centimetre grid.



14(a) What is the length of a diameter of the circle.

Answer cm (1 mark)

14 (b) What are the coordinates of the centre of the circle.

Answer (.....,) (2 marks)

14 (c) Draw a tangent to the circle.

(1 mark)

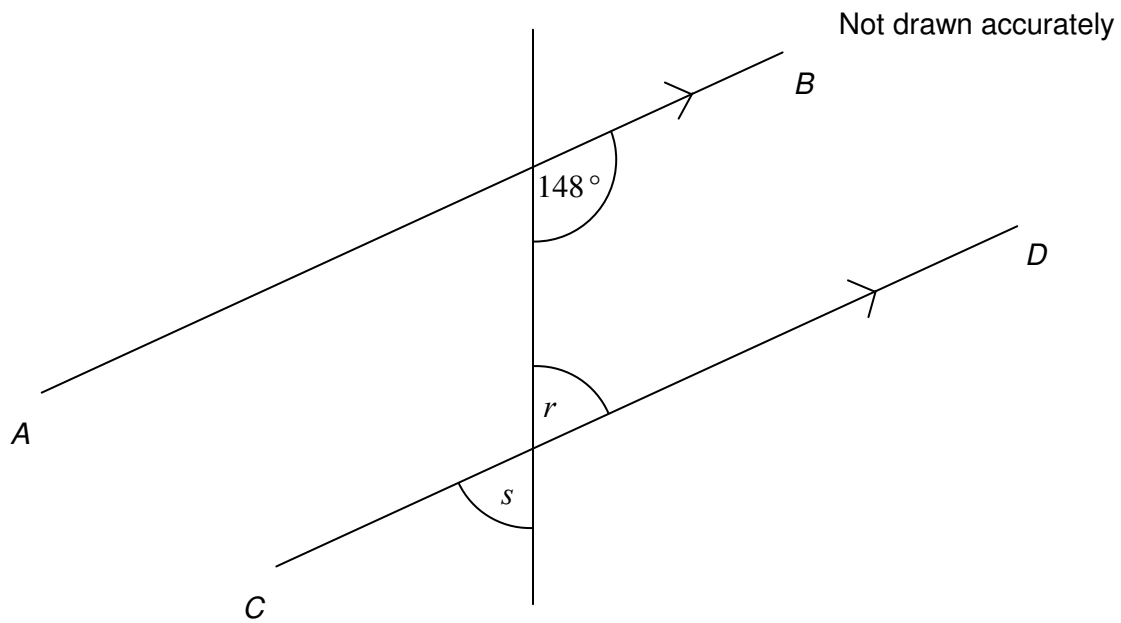
14 (d) State the units for the area of the circle.

Answer (1 mark)



15

In the diagram AB is parallel to CD .



15 (a) Work out the value of r .

.....
.....

Answerdegrees (2 marks)

15 (b)(i) Write down the value of s .

.....

Answerdegrees (1 mark)

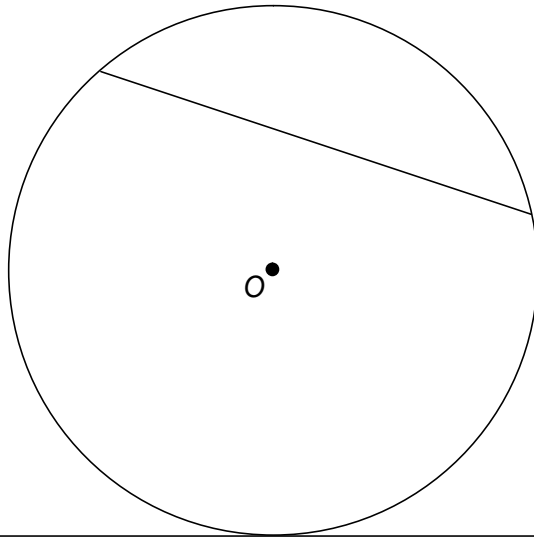
15 (b)(ii) Give a reason for your answer.

.....
.....

(1 mark)



16 The diagram shows a circle, centre O , with a tangent and a chord.



16 (a) Measure the diameter of the circle.

Answer cm (1 mark)

16 (b) The tangent meets the circle at point T .

Mark point T on the diagram.

(1 mark)

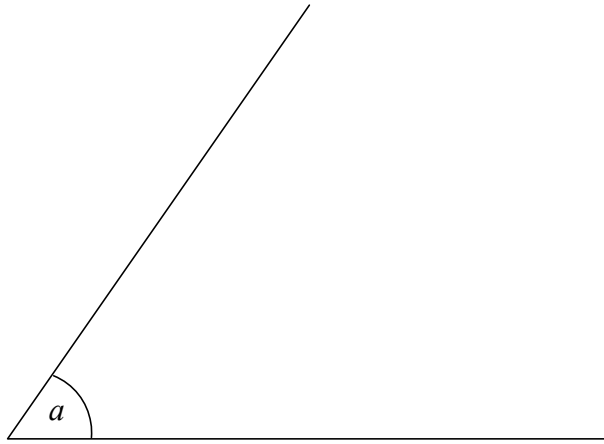
16 (c) Mark a point on the chord that is 2 cm from O .

Label it U .

(1 mark)

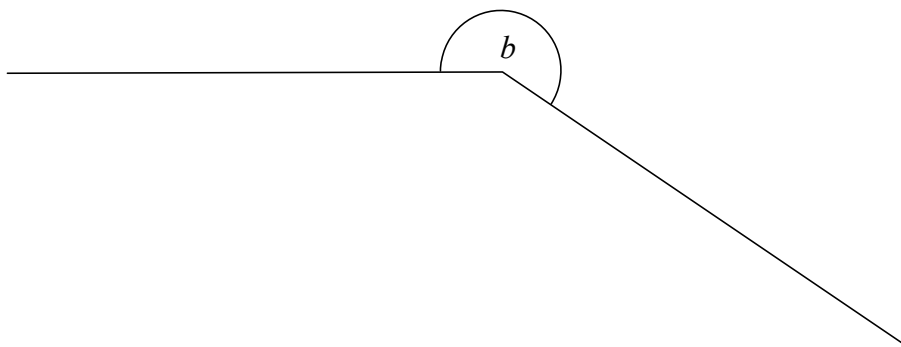


17 (a) Measure the acute angle a .



Answer degrees (1 mark)

17 (b) Use measurements to work out the size of angle b .



.....
.....

Answer degrees (2 marks)



17 (c) An acute angle and an obtuse angle fit together to make an angle of 210°

Work out two possible values for the angles

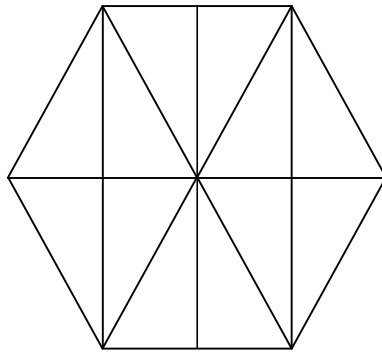
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Answerdegrees and..... degrees (2 marks)



18

A regular hexagon is divided into congruent right-angled triangles.



Here are the names of eight shapes:

Equilateral triangle

Isosceles triangle

Trapezium

Rhombus

Kite

Rectangle

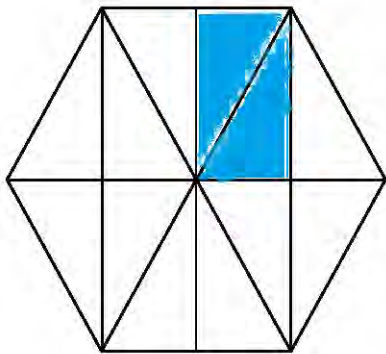
Square

Parallelogram

In the diagrams below some of the right-angled triangles have been shaded.

Match the shaded shapes with the correct name from the list above.

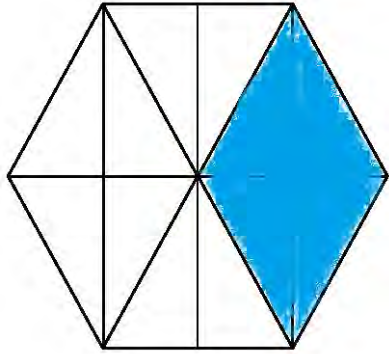
18(a)



Name (1 mark)

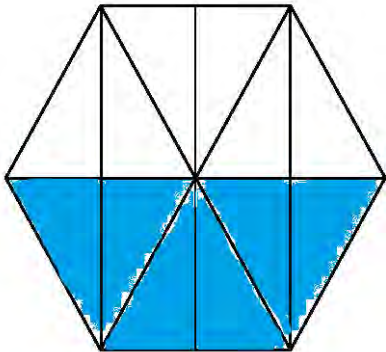


18 (b)



Name (1 mark)

18 (c)



Name (1 mark)

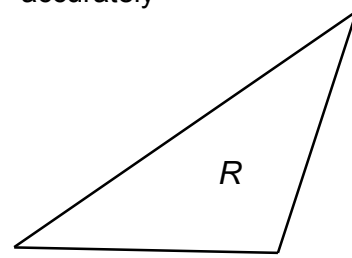
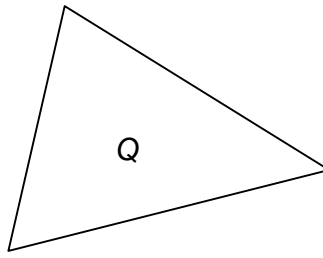
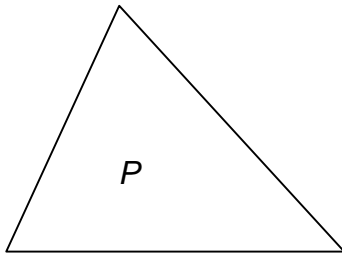


19

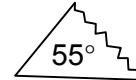
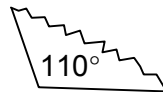
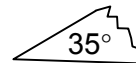
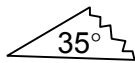
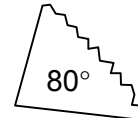
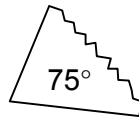
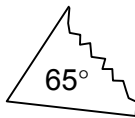
Three triangles, *P*, *Q* and *R* are cut out of paper.

The angles are measured.

Not drawn accurately



The corners are torn off each triangle and mixed up as shown.



Identify three sets of angles that could go with each triangle.

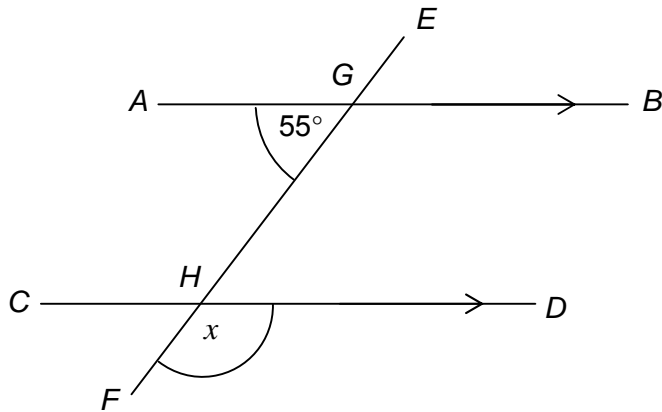
Angles and and.....

Angles and and.....

Angles and and..... (3 marks)



In the diagram AB is parallel to CD .



Not drawn accurately

Work out the value of the angle marked x in the diagram.
Show clearly, giving reasons, how you work out your answer.

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Answerdegrees (3 marks)



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