Surname	
Other Names	
Candidate Signature	

In the style of AQA

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.
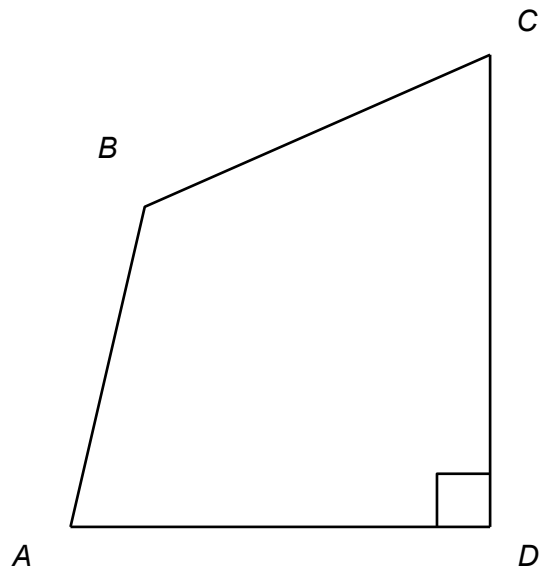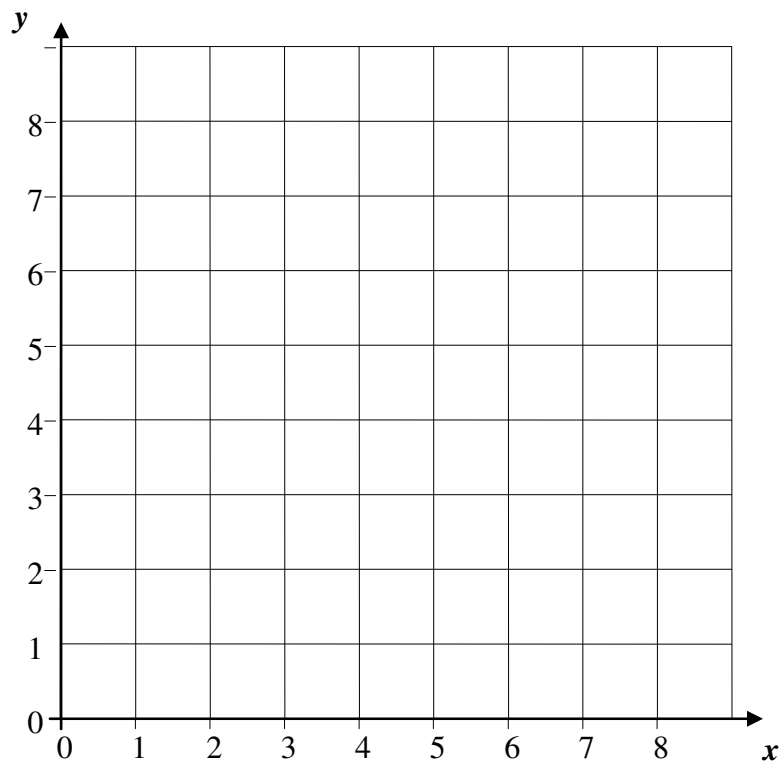

Complete each sentence using a letter.

Angle .... is a right angle.

Angle .... is an obtuse angle.

Angle .... is an acute angle.
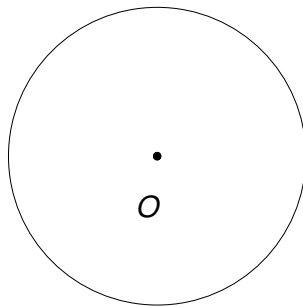
(*2 marks*)

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*)
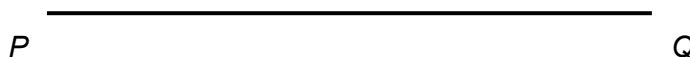
2 (b)(ii)   Draw a diameter.   (*1 mark*)

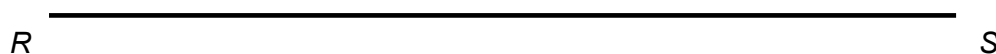**2 (b)(iii)**   Draw a tangent.   (*1 mark*)

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

———————————————

        P   *Q*

Answer .... cm (*1 mark*)

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

———————————————————

    R   *S*

T is a point on *RS*

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

Work out the length of *RT*.

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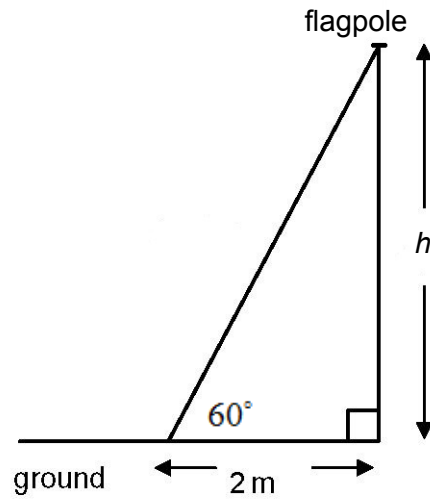
Answer .... cm (*3 marks*)

4   The diagram shows a vertical flagpole. From 2 metres

away the top of the flagpole is $70°$ from the ground.

Not drawn
accurately

flagpole

h

$60°$

ground   2 m

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.
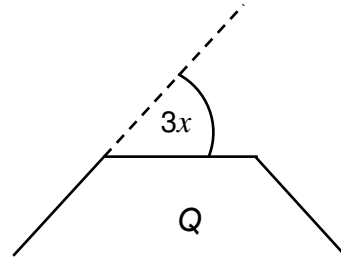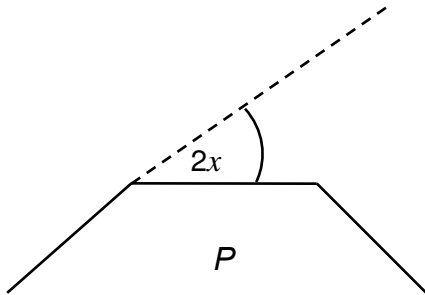
(*3 marks*)

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

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

Q has exterior angle $3x$.

$2x$

P

$3x$

Q

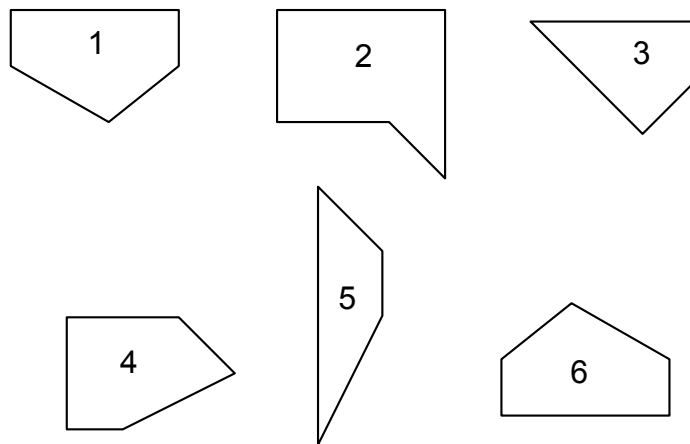Work out the number of sides of regular polygon *Q*.

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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
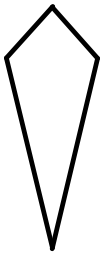
Congruent shapes have the same area.

☐ Always true   ☐ Sometimes true   ☐ Never true
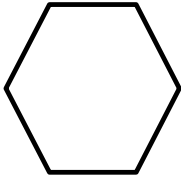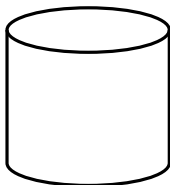
(*2 marks*)

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

....

....

....

(*3 marks*)

Here are two angles, *a* and *b*.
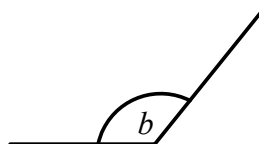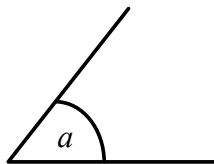
7 (b) What type of angles are they?

Answer *a* is..

b is .... (*2 marks*)

8   Here are some lines drawn on a grid.
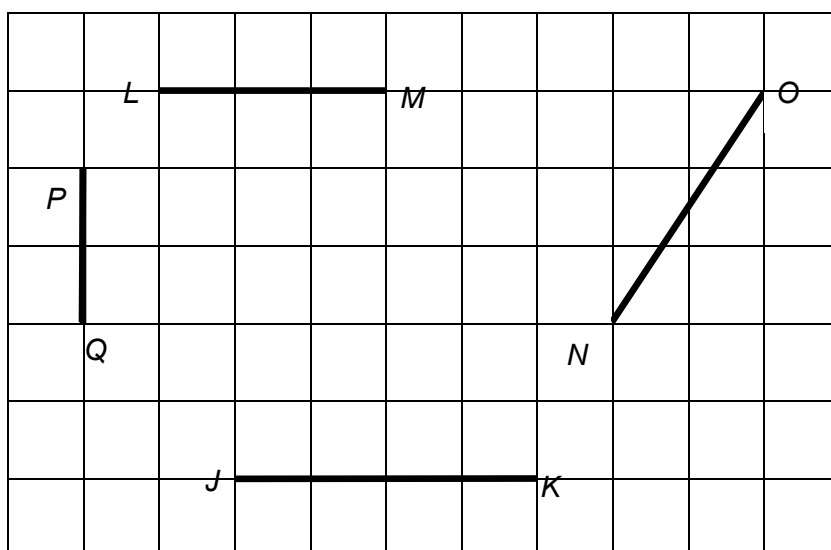
8(a)   Measure the length of *NO.*

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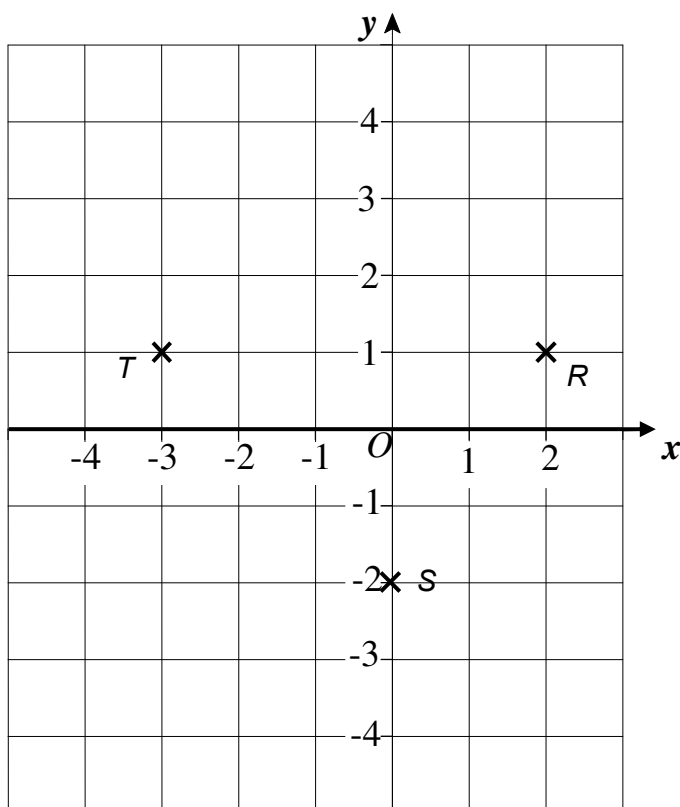
9(a) Write down the coordinates of the point *T*.

Answer (............... , ...) (*1 mark*) Á

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.	☐	☐
It is possible to plot point *U* so that *RSTU* is a rectangle.	☐	☐
It is possible to plot point *U* so that *RSTU* is a parallelogram.	☐	☐

(2 marks)

10   Three straight lines meet at a point as shown.
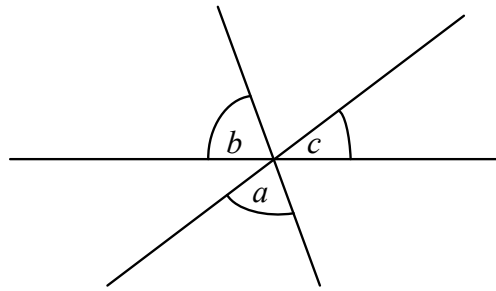
Not drawn
accurately

$b = 80°$

c is 40% of b.

Work out the size of a.

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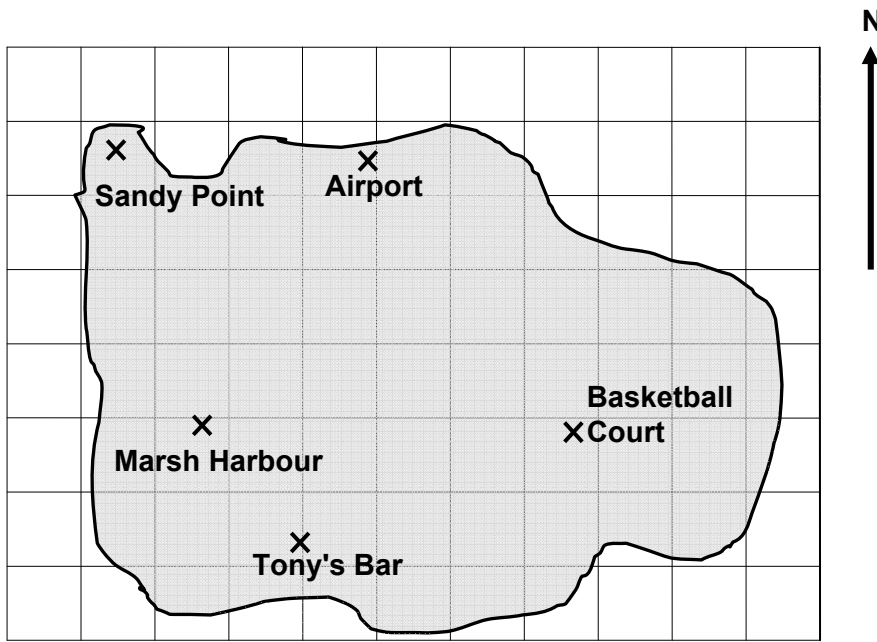
Answer .... degrees (*4 marks*)

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

Each square represents 10 000 m².

N

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*)

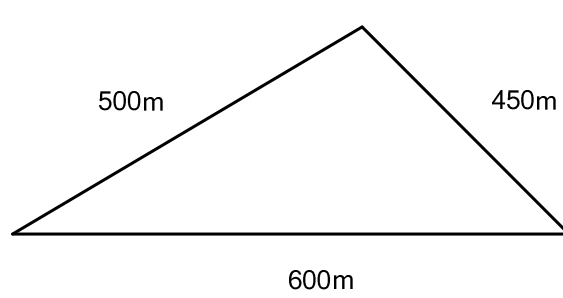**11 (c)** A Baseball Stadium is on a bearing of 200° from the Airport and 070° from Marsh Harbour

Mark with a cross the position of the Baseball Stadium on the map. (*3 marks*)

12   Here is a triangle.

Not drawn
accurately

500m   450m

600m

Using ruler and compasses only, construct an accurate scale drawing of the triangle.

Use the scale 1 cm represents 50 m.

(*3 marks*)

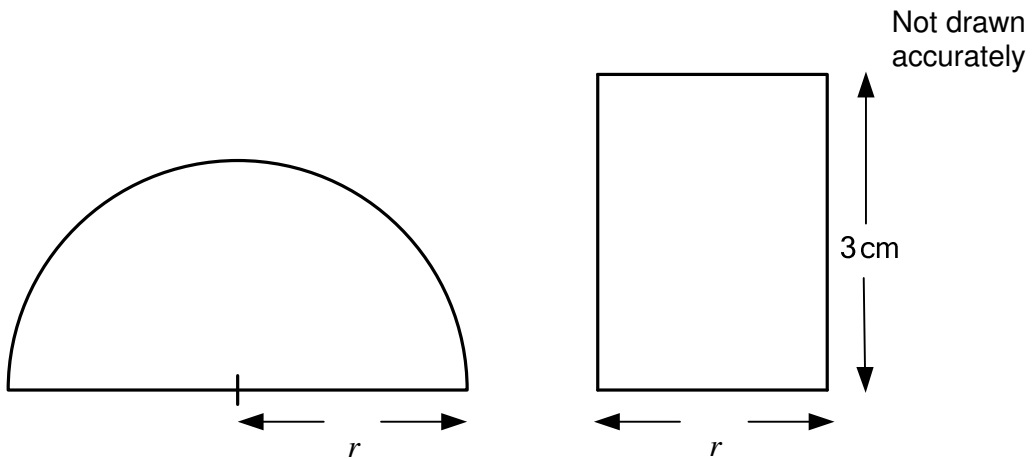**13 (a)** Here is a formula for the perimeter, P, of a rectangle.

$$P = 2L + 2W$$

Work out L when $P = 30\,\text{cm}$ and $W = 4\,\text{cm}$

....

....

....

Answer .... cm (*3 marks*)

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

Not drawn accurately

3 cm

r

r

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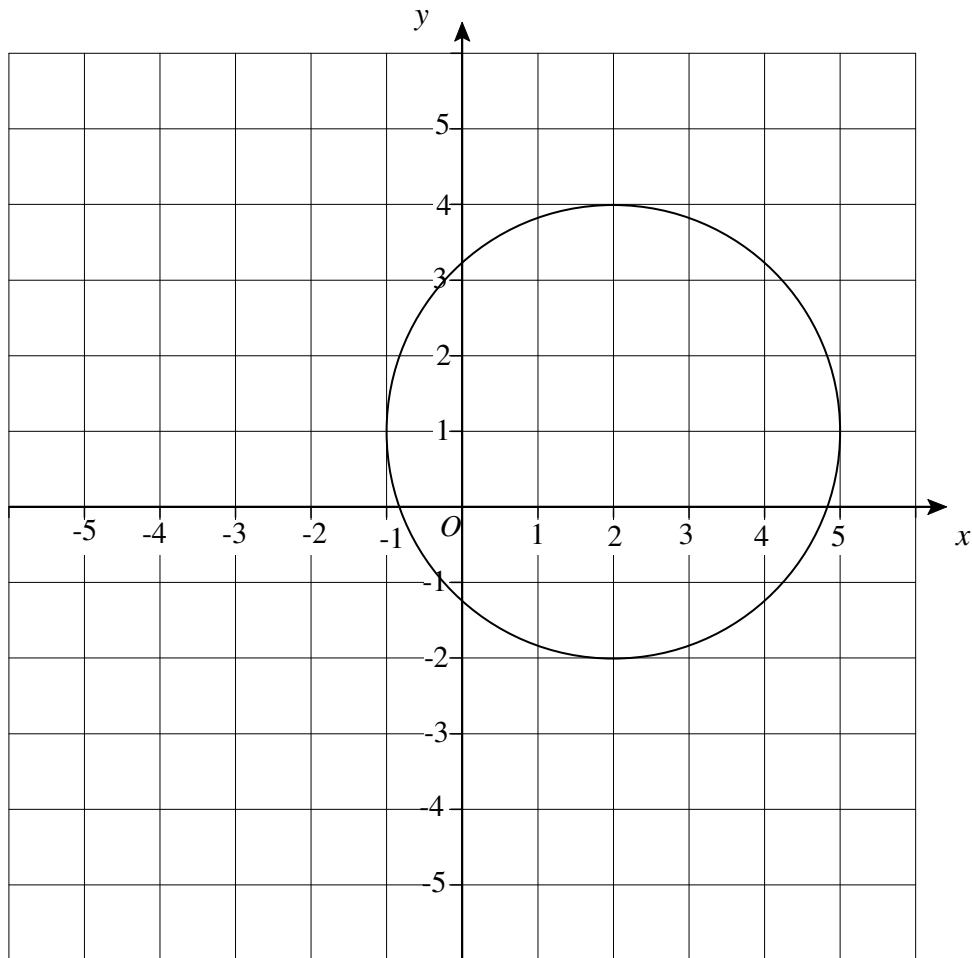
14(a)   What is the length of a diameter of the circle.

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*.

Not drawn accurately
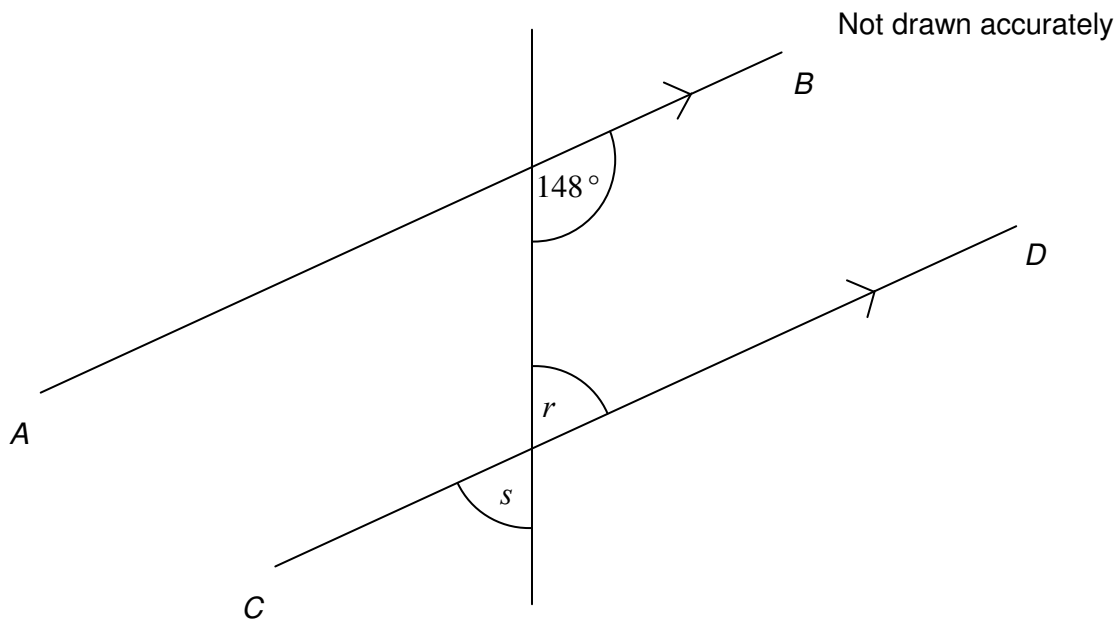
15 (a)   Work out the value of r.

....

....

Answer ....degrees (*2 marks*)

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

....

Answer ....degrees (*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.
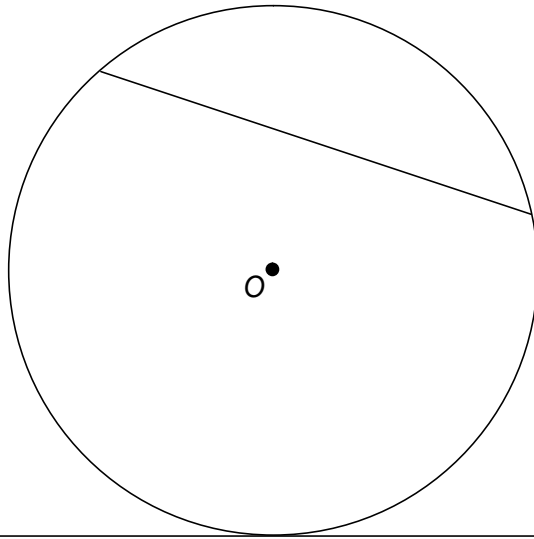
16 (a)   Measure the diameter of the circle.

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.
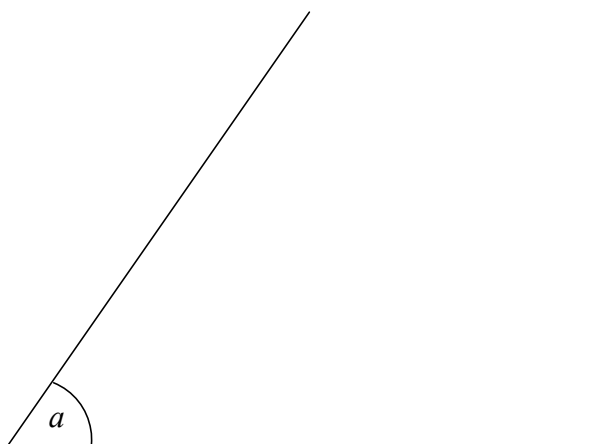
Answer   .... degrees *(1 mark)*

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

....……….....………......…………………………………………………..

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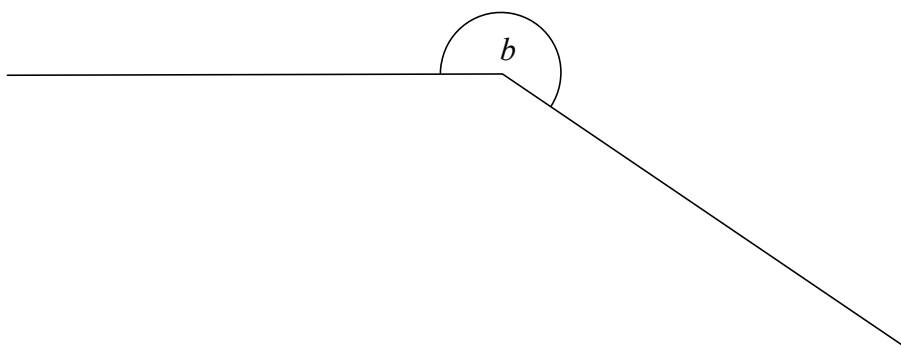
Answer   .... degrees *(2 marks)*

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

.....................................……………...…………...………………………………………………..

Answer ....degrees and............................. degrees *(2 marks)*

18   A regular hexagon is divided into congruent right-angled triangles.
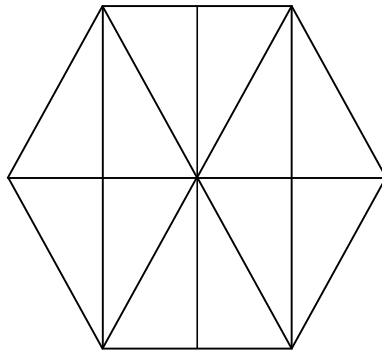
Here are the names of eight shapes:

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)
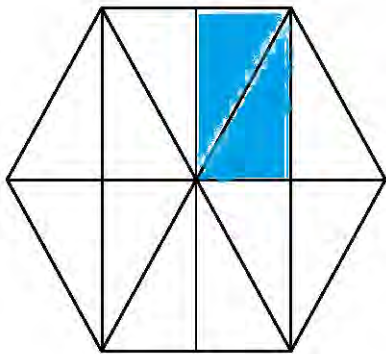
Name .... *(1 mark)*

18 (b)
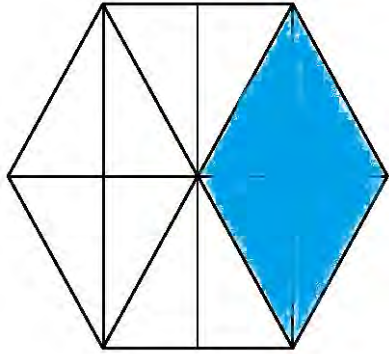
Name .... *(1 mark)*

18 (c)
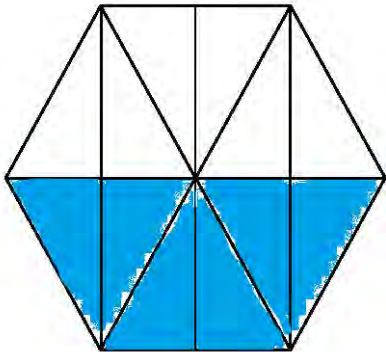
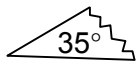Name .... *(1 mark)*

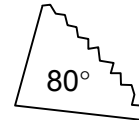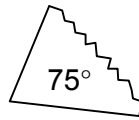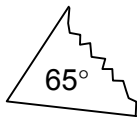**19**   Three triangles, *P, Q* and *R* are cut out of paper.

The angles are measured.

Not drawn accurately
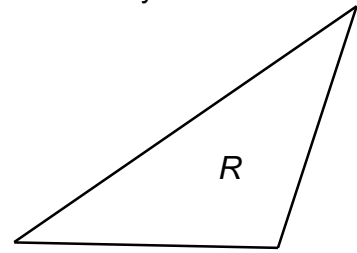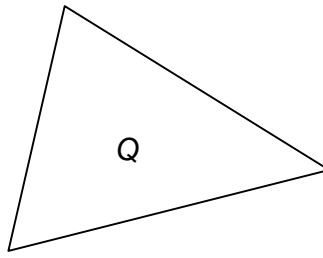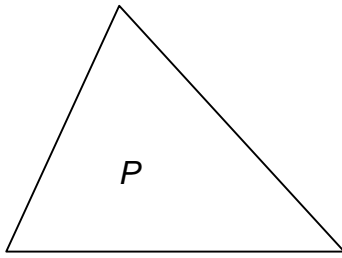
The corners are torn off each triangle and mixed up as shown.

65°   75°   80°

35°   45°   35°

40°   110°   55°
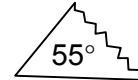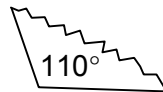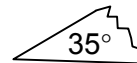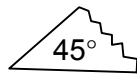
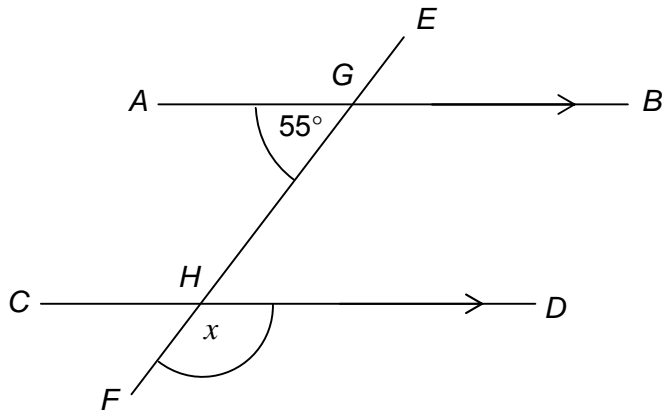Identify three sets of angles that could go with each triangle.

Angles .... and .... and...........

Angles .... and .... and...........

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

20   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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Answer …………..………………degrees *(3 marks)*

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