

Edexcel GCSE

Mathematics (Linear) – 1MA0

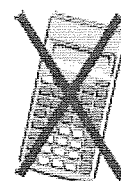
LOCI & CONSTRUCTIONS

Materials required for examination

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers

Nil



Instructions

Use black ink or ball-point pen.

Fill in the boxes at the top of this page with your name, centre number and candidate number.

Answer all questions.

Answer the questions in the spaces provided – there may be more space than you need.

Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.

Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.

Keep an eye on the time.

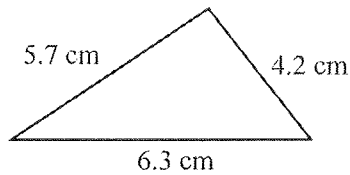
Try to answer every question.

Check your answers if you have time at the end.

THINK

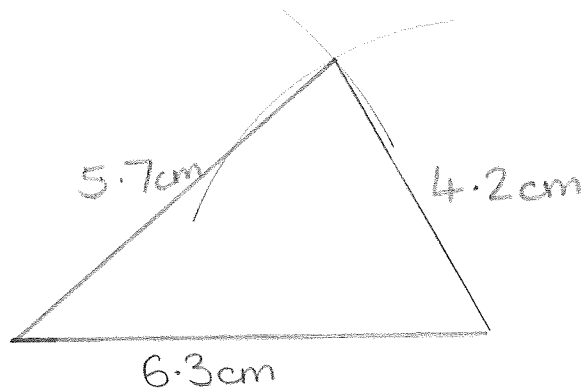
3 sides → Compasses
only
Start with base.

1. Here is a sketch of a triangle.



In the space below, use ruler and compasses to **construct** this triangle accurately. You must show all construction lines.

- ① Base
- ② Arcs
- ③ Sides to cross
- ④ Label sides



Don't rub out
construction lines!

(3 marks)

2.

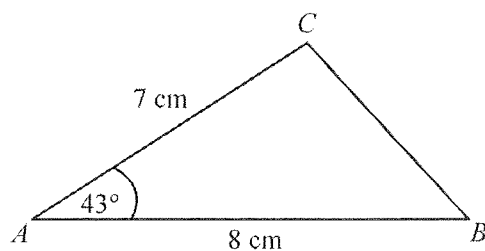


Diagram NOT
accurately drawn

→ SAS → protractor

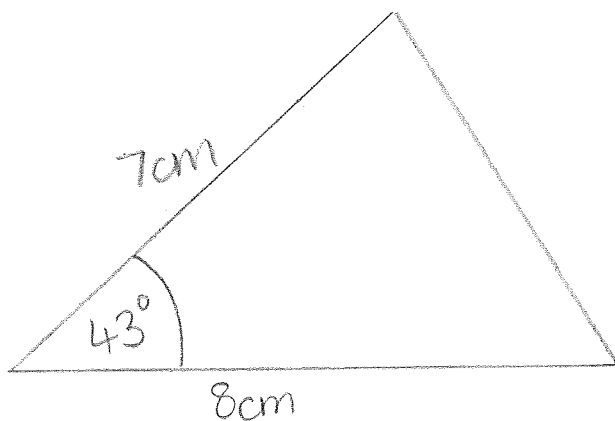
ABC is a triangle.

$AB = 8$ cm.

$AC = 1$ cm.

Angle $A = 43^\circ$.

In the space below, make an accurate drawing of triangle ABC .



(3 marks)

3. The diagram shows a sketch of triangle ABC .

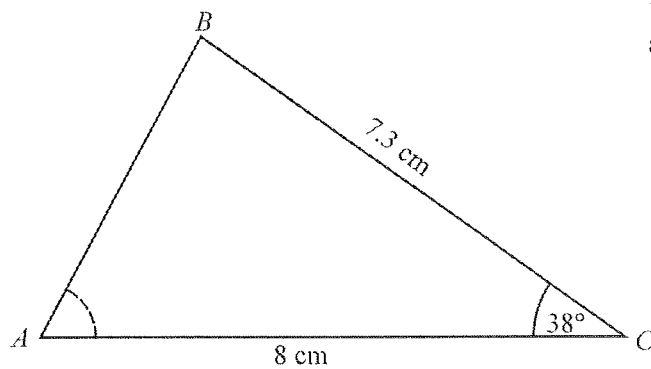
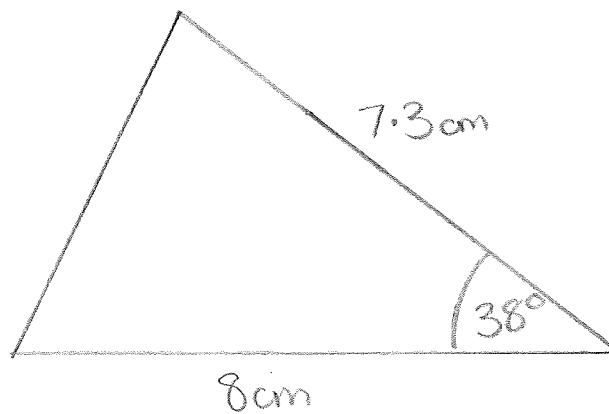


Diagram **NOT**
accurately drawn

$BC = 7.3$ cm.
 $AC = 8$ cm.
Angle $C = 38^\circ$.

- (a) Make an accurate drawing of triangle ABC .



(3)

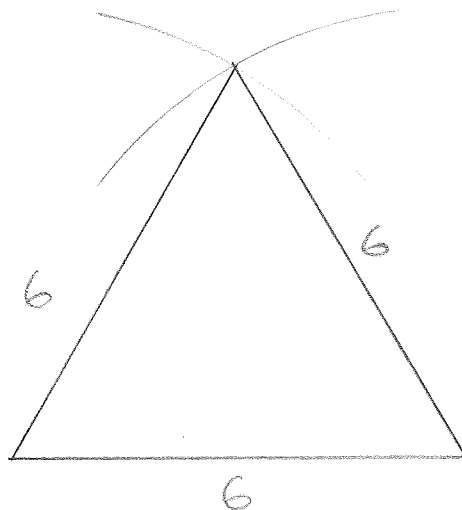
- (b) Measure the size of angle A on your diagram.

..... 64°

(1)

(4 marks)

4. In the space below, use ruler and compasses to **construct** an equilateral triangle with sides of length 6 centimetres.
You must show all your construction lines.

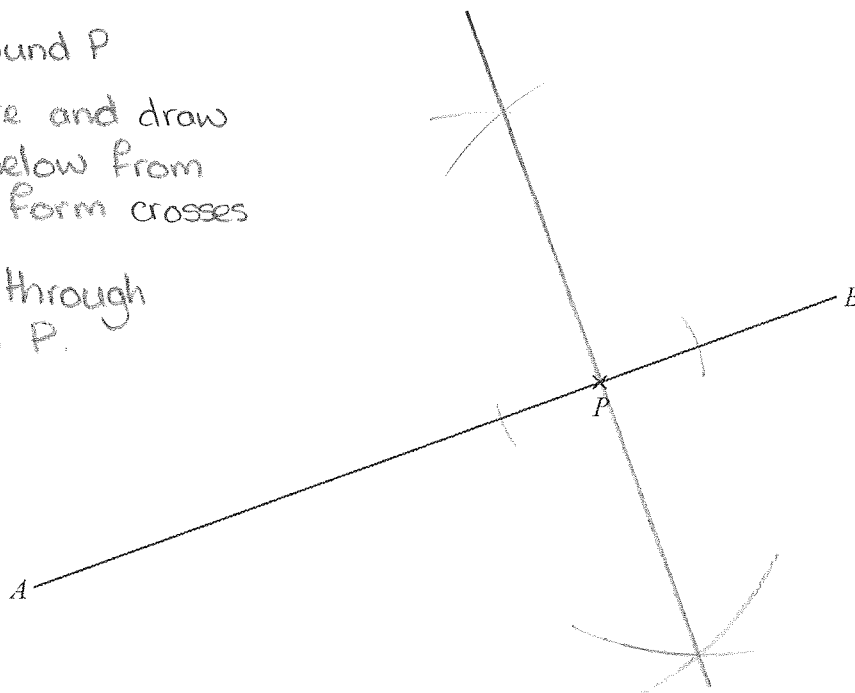


- ① Draw base
- ② Open compasses equal to base length
- ③ Arc from each end of base
- ④ Draw sides from crossing point
- ⑤ Label

(3 marks)

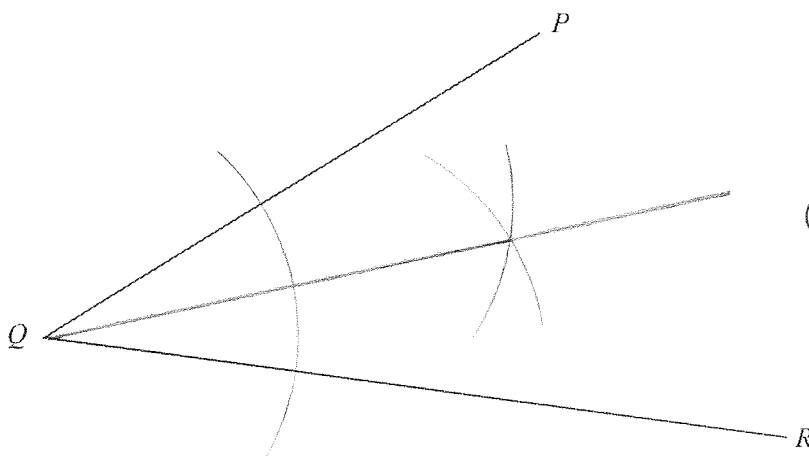
5. Use the ruler and compasses to **construct** the perpendicular to the line segment AB that passes through the point P .
You must show all construction lines.

- ① Little arcs around P
- ② Open out more and draw arcs above + below from little arcs to form crosses
- ③ Draw a line through crosses and P .



(3 marks)

6.



- ① Arc across both lines
- ② Arc from line/arc crossing point in the middle
- ③ Line from Q to cross and beyond

Use ruler and compasses to **construct** the bisector of angle PQR .
You must show all your construction lines.

(3 marks)

7.

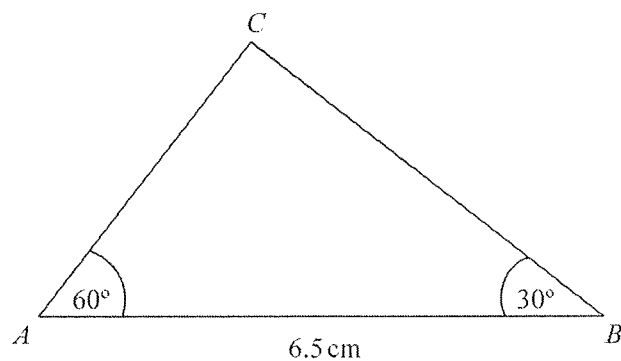
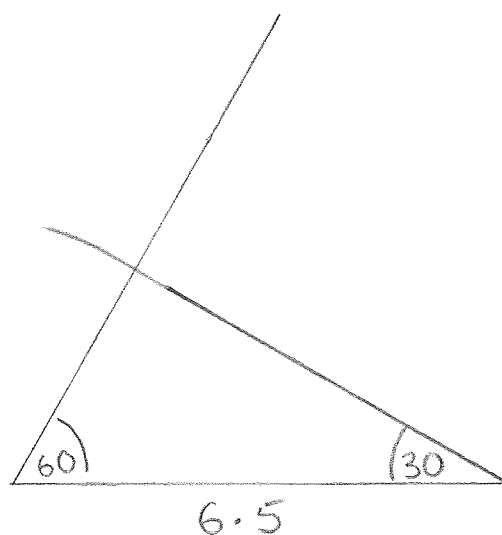


Diagram **NOT** accurately drawn

- (a) Make an accurate drawing of triangle ABC .



(3)

- (b) Measure the size of the angle at C in your triangle.

..... 90°

(1)

(4 marks)

8.

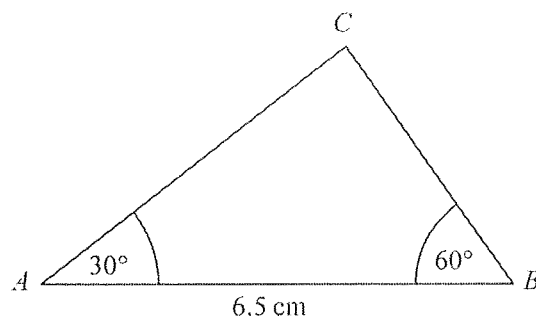
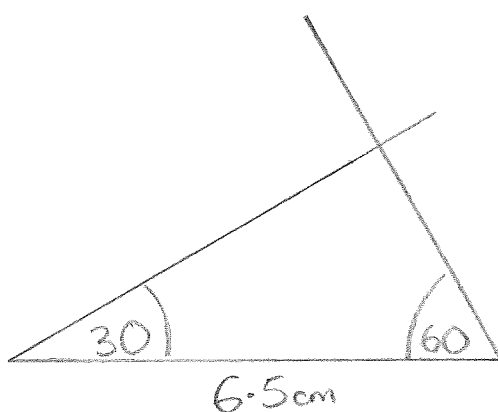


Diagram NOT
accurately drawn

- (a) Make an accurate drawing of this triangle.



(2)

- (b) Measure the length of the line AC on your drawing.
You must state the units.

mark

5.7 cm

(2)

The size of the angle in the triangle at C is 90° .

- (c) Write down the mathematical name for this type of angle.

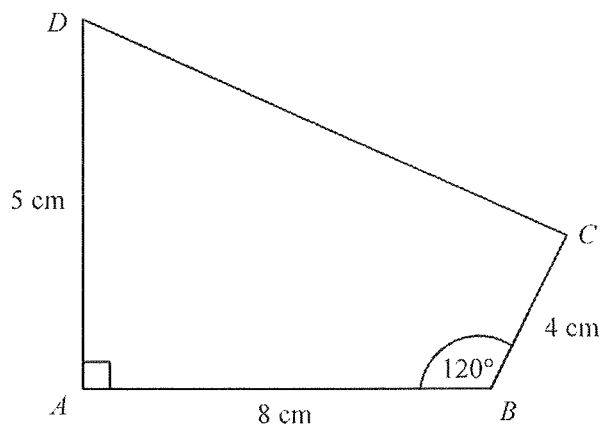
right angle

(1)

(5 marks)

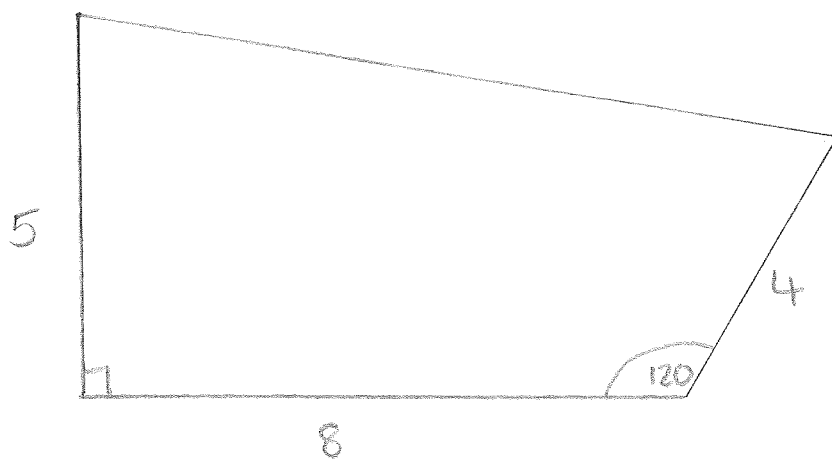
9.

Diagram **NOT**
accurately drawn



Make an accurate drawing of the quadrilateral $ABCD$ in the space below.

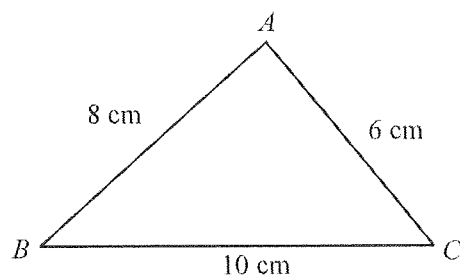
- ① Base
- ② Angle (90°)
- ③ Side (5cm)
- ④ Angle (120°)
- ⑤ Side
- ⑥ Join DC
- ⑦ Label



(4 marks)

10.

Diagram **NOT** accurately drawn



ABC is a triangle.

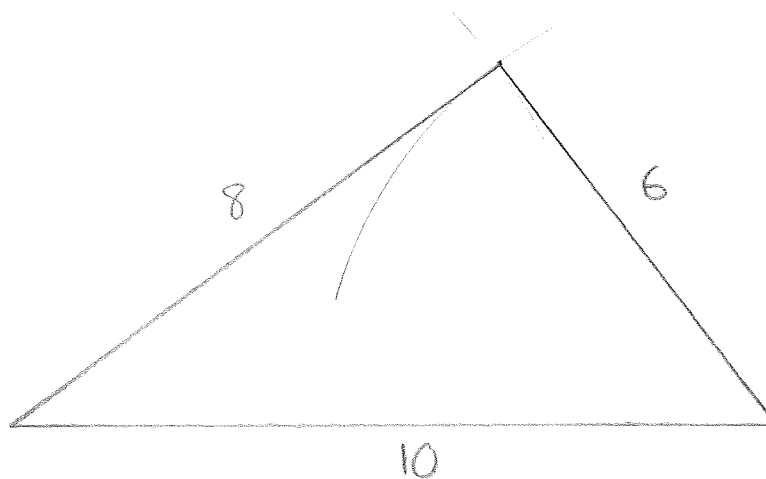
$AB = 8$ cm.

$AC = 6$ cm.

$BC = 10$ cm.

Use ruler and compasses to construct an accurate drawing of triangle ABC .

You must show all your construction lines.



(3 marks)

11. Here is a sketch of a rhombus.

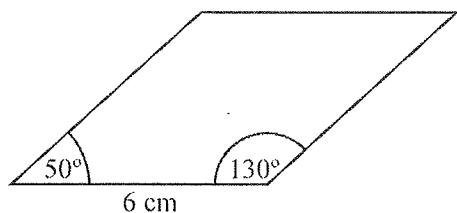
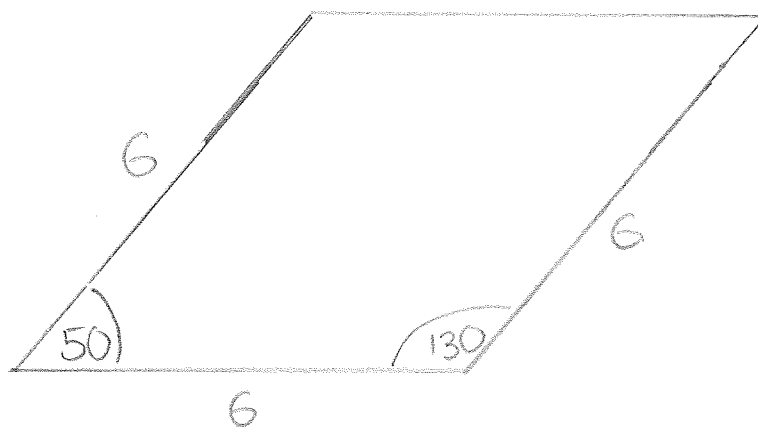


Diagram **NOT** accurately drawn

The rhombus has a side of length 6 cm.
One angle of the rhombus is 50° .
Another angle of the rhombus is 130° .

All lengths = 6cm
Opposite angles equal

Use a ruler and a protractor to make an accurate drawing of the rhombus.



- ① Base
- ② Angles
- ③ Sides
- ④ Join up.

(4 marks)