

Edexcel GCSE

Mathematics (Linear) – 1MA0

Congruent Triangles

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 must not be used.

Information

The total mark for this paper is 100.

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.

1.

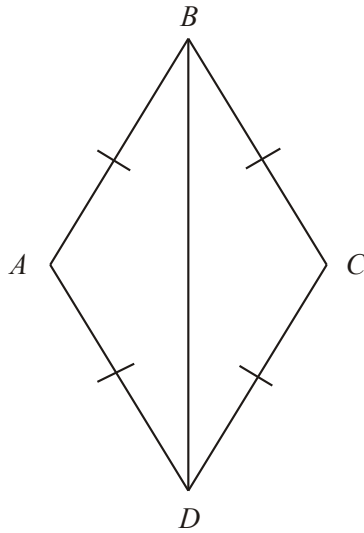


Diagram **NOT** accurately drawn

In the diagram, $AB = BC = CD = DA$.

Prove that triangle ADB is congruent to triangle CDB .

(Total 3 marks)

2.

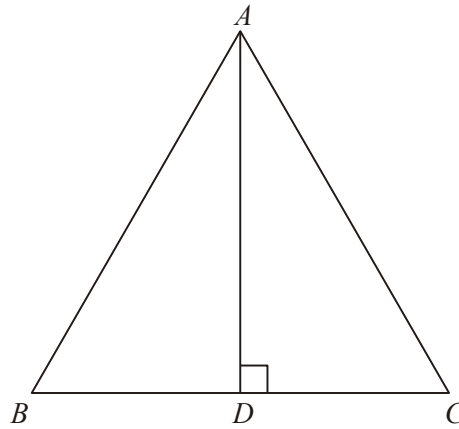


Diagram **NOT** accurately drawn

ABC is an equilateral triangle.

D lies on BC .

AD is perpendicular to BC .

(a) Prove that triangle ADC is congruent to triangle ADB .

(3)

(b) Hence, prove that $BD = \frac{1}{2}AB$.

(2)

(Total 5 marks)

3.

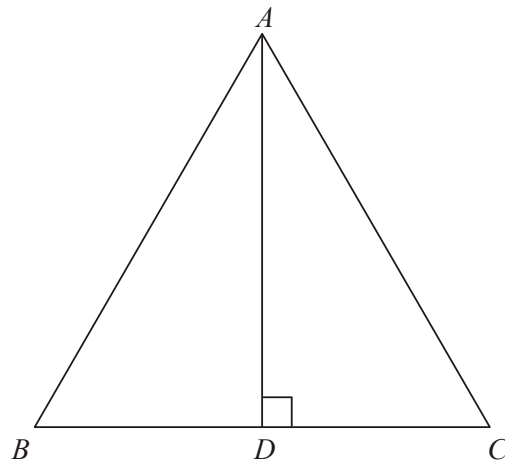


Diagram **NOT** accurately drawn

ABC is an equilateral triangle.

D lies on BC .

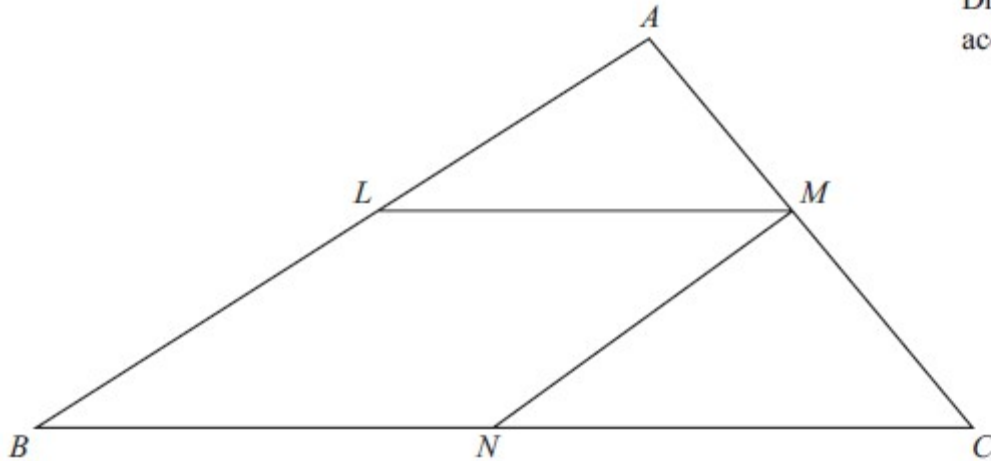
AD is perpendicular to BC .

Prove that triangle ADC is congruent to triangle ADB .

(Total 3 marks)

4.

Diagram NOT
accurately drawn



The diagram shows a triangle ABC .

$LMNB$ is a parallelogram where
 L is the midpoint of AB ,
 M is the midpoint of AC ,
and N is the midpoint of BC .

Prove that triangle ALM and triangle MNC are congruent.
You must give reasons for each stage of your proof.

(Total 3 marks)