

Name: _____

GCSE (1 – 9)

Congruent Triangles

Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

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.*

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

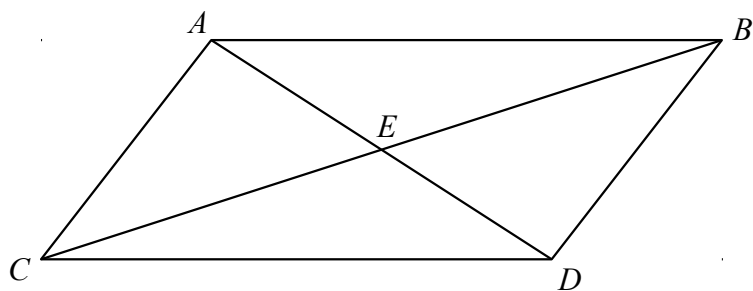
1 $ABCD$ is a parallelogram



Prove that triangle ABC is congruent to triangle BCD .

(Total for Question 1 is 3 marks)

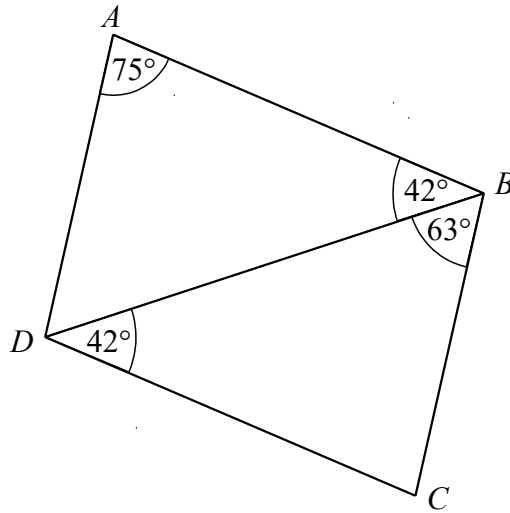
- 2 $ABCD$ is a parallelogram
 E is the point where the diagonals AD and BC meet.



Prove that triangle ACE is congruent to triangle BDE .

(Total for Question 2 is 3 marks)

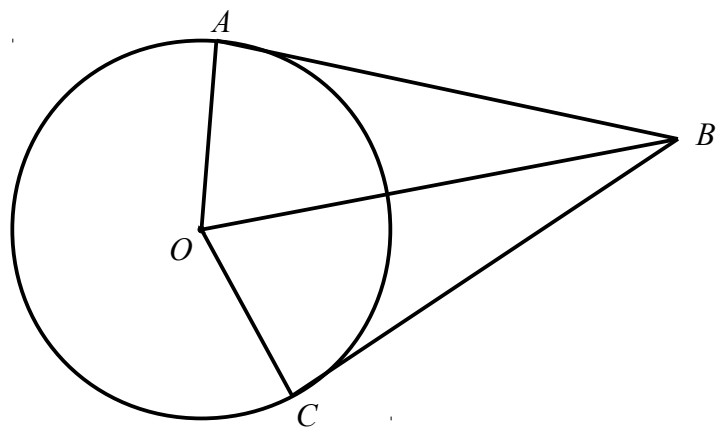
- 3 The diagram shows two triangles, ABD and BCD .



Prove that triangle ABD is congruent to triangle BCD .

(Total for Question 3 is 3 marks)

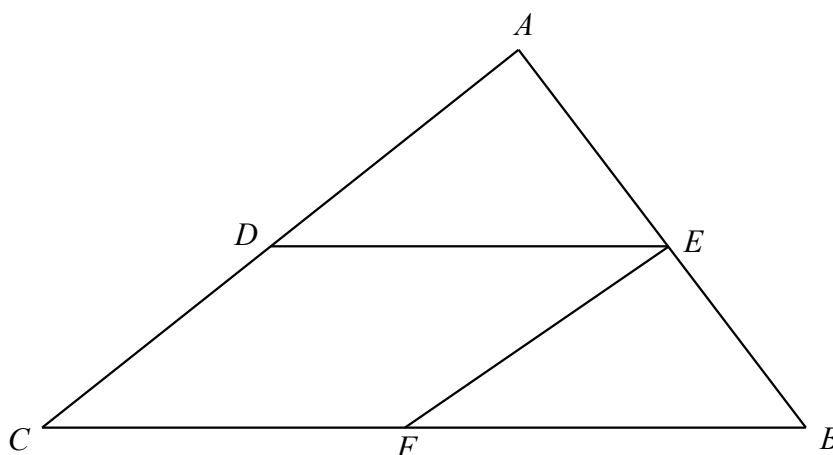
- 4 A and C are points on a circle, centre O .
 AB and BC are tangents to the circle.



Prove that triangle ABO is congruent to triangle BCO .

(Total for Question 4 is 4 marks)

5 ABC is a triangle.



$CDEF$ is a parallelogram such that:

D is the midpoint of AC

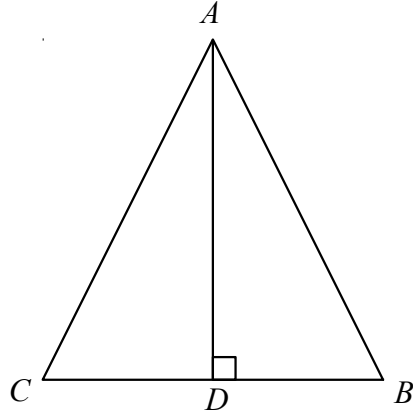
E is the midpoint of AB

F is the midpoint of BC

Prove that triangle ADE is congruent to triangle BEF .

(Total for Question 5 is 4 marks)

6 ABC is an equilateral triangle.



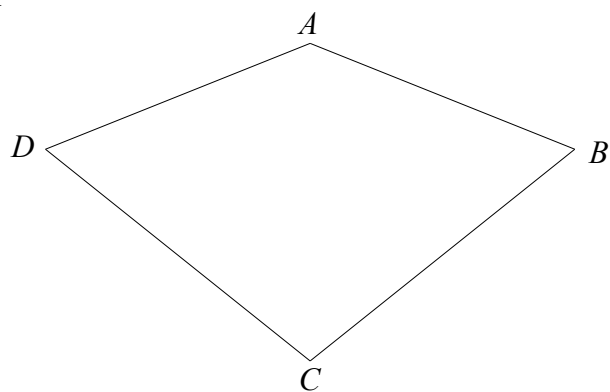
D lies on BC

AD is perpendicular to BC

Prove that angle CAD is equal to angle BAD .

(Total for Question 6 is 4 marks)

7 $ABCD$ is a quadrilateral



$$AB = AD$$

$$BC = CD$$

Prove that angle ABC is equal to angle ADC .

(Total for Question 7 is 4 marks)