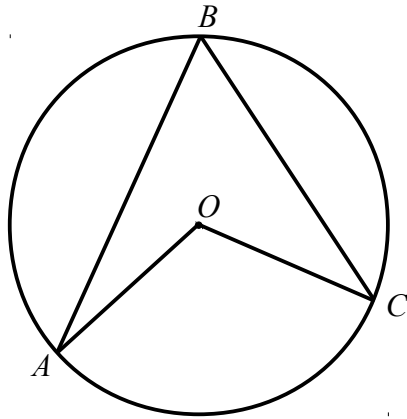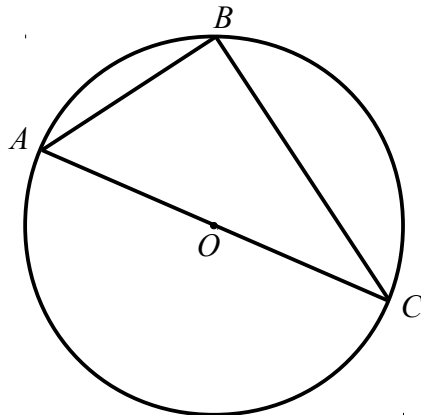**1**

A, *B* and *C* are points on the circumference of a circle, centre *O*.

Prove that angle *AOC* is twice the size of angle *ABC*.
You must **not** use any circle theorems in your proof.
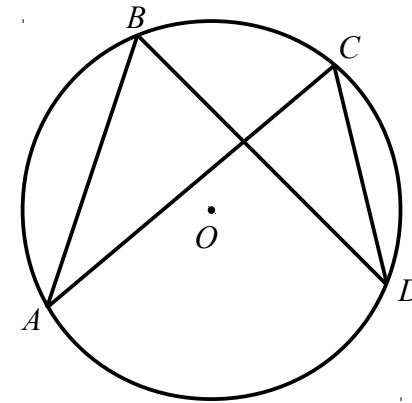
(4 marks)

2

A, *B* and *C* are points on the circumference of a circle, centre *O*.
AOC is a diameter of the circle.

Prove that angle *ABC* is 90°
You must **not** use any circle theorems in your proof.
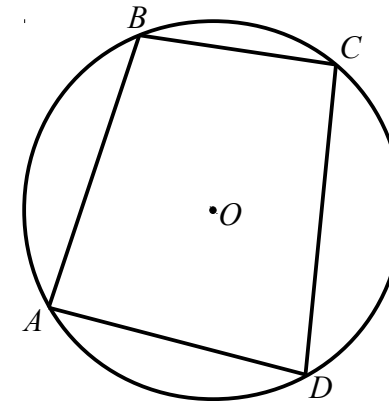
(4 marks)

3

A, *B*, *C* and *D* are points on the circumference of a circle, centre *O*.

Prove that angle *ABD* and angle *ACD* are equal.
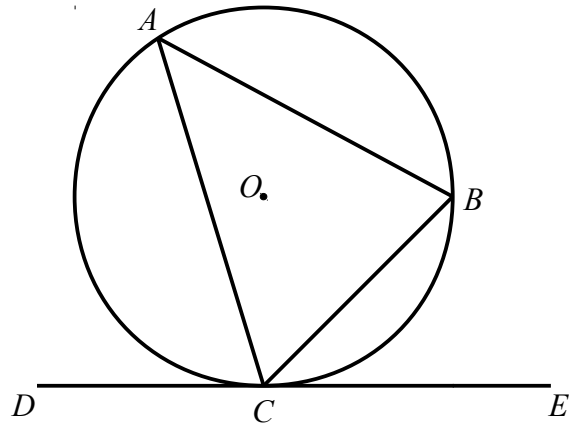
(2 marks)

4

A, *B*, *C* and *D* are points on the circumference of a circle, centre *O*.

Prove that angle *ABC* and angle *ADC* add to 180°

(4 marks)

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5

A, *B* and *C* are points on the circumference of a circle, centre *O*.
DCE is a tangent to the circle.

Prove that angle *BCE* and angle *BAC* are equal.

(4 marks)