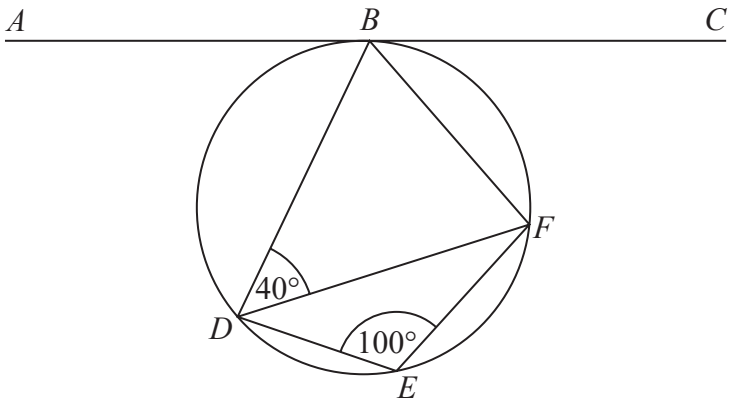
1

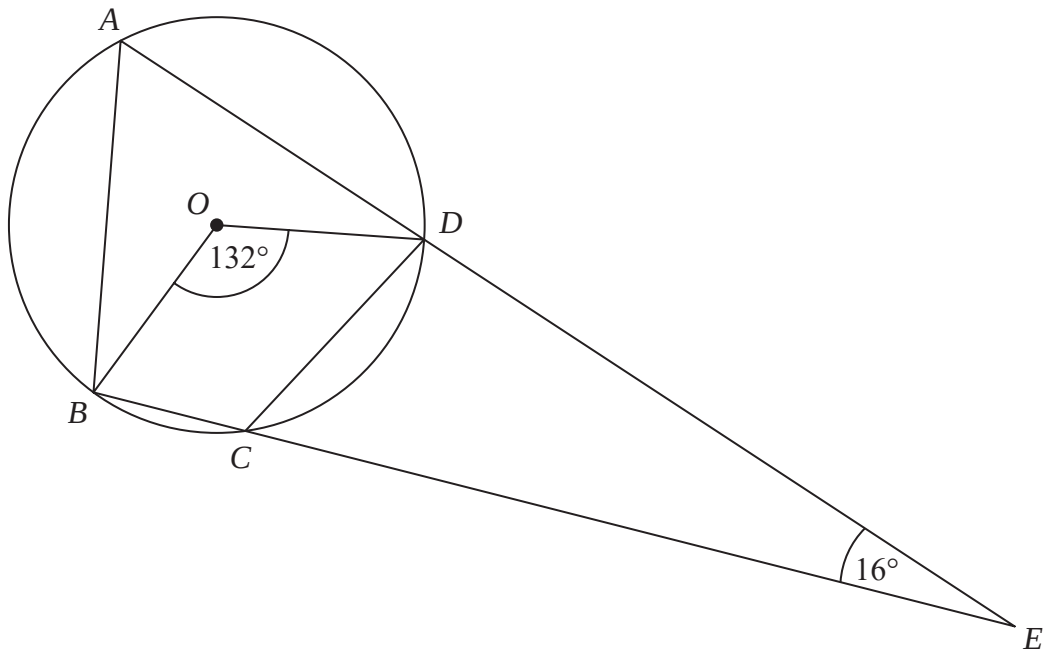


Points B, D, E and F lie on a circle.
ABC is the tangent to the circle at B.

Find the size of angle ABD.
You must give a reason for each stage of your working.

(Total for Question 1 is 4 marks)

2 *A*, *B*, *C* and *D* are points on the circumference of a circle, centre *O*.
ADE and *BCE* are straight lines.



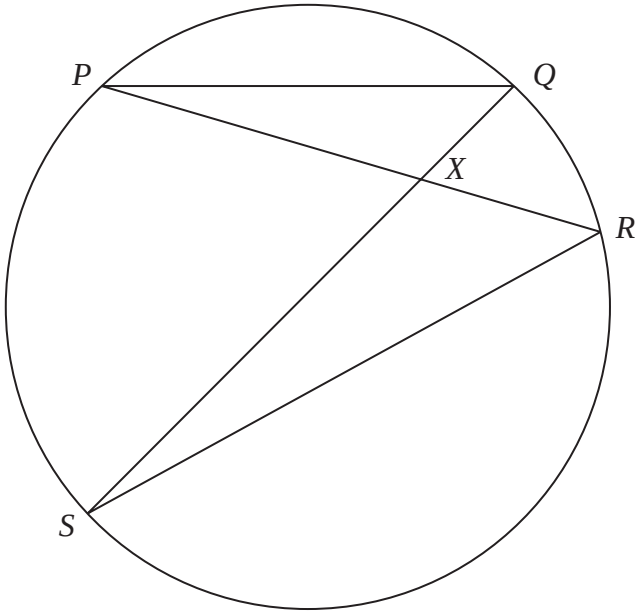
Work out the size of angle *CDE*.
Give a reason for each stage of your working.

.....°

.....

(Total for Question 2 is 4 marks)

3 *P*, *Q*, *R* and *S* are four points on a circle.

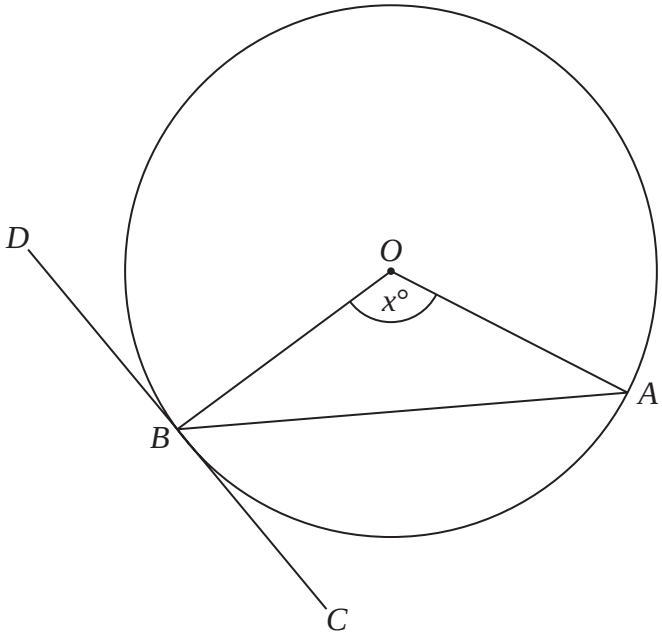


PXR and *SXQ* are straight lines.

Prove that triangle *PQX* and triangle *SRX* are similar.

(Total for Question 3 is 3 marks)

4



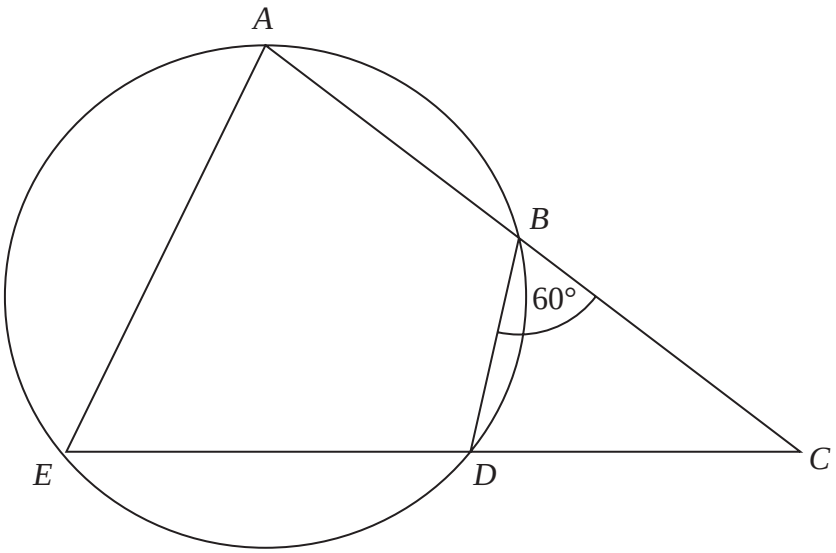
A and *B* are points on a circle, centre *O*.
DBC is the tangent to the circle at *B*.
Angle *AOB* = *x*°

Show that angle *ABC* = $\frac{1}{2}x°$

You must give a reason for each stage of your working.

(Total for Question 4 is 3 marks)

5



ABDE is a cyclic quadrilateral.
ABC and *EDC* are straight lines.
Angle *DBC* = 60°

Given that

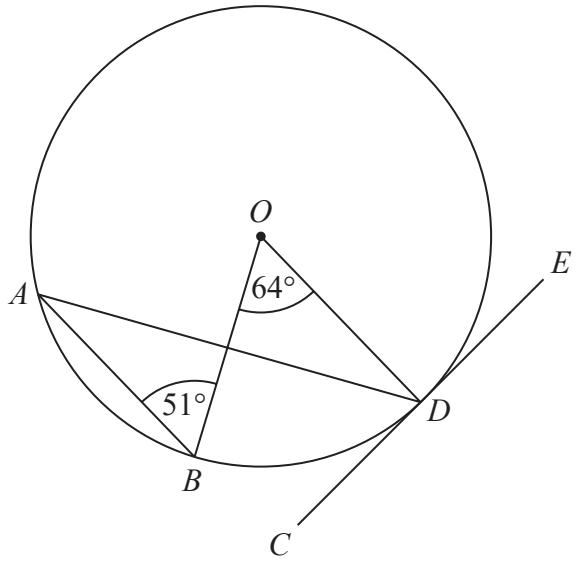
size of angle *EAB* : size of angle *BCD* = 2 : 1

work out the size of angle *BCD*.
You must show all your working.

.....°

(Total for Question 5 is 4 marks)

6 *A*, *B* and *D* are points on a circle with centre *O*.
CDE is the tangent to the circle at *D*.



Work out the size of angle *ADC*.
Write down any circle theorems you use.

.....°

.....

(Total for Question 6 is 4 marks)