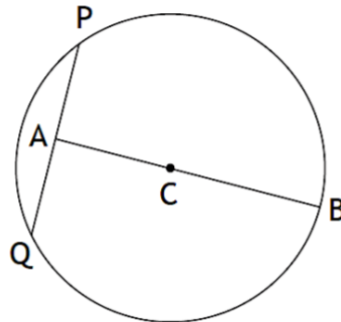




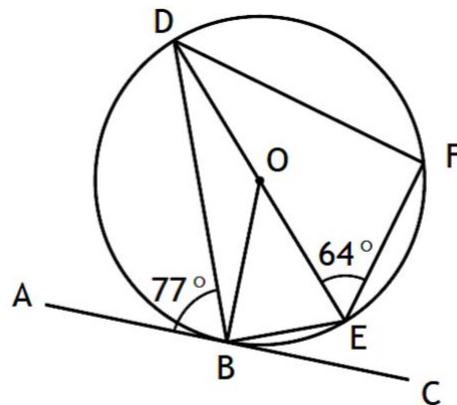
## Properties of Shapes – Questions

Q1) The diagram below shows a circle, centre  $C$ .



The radius of the circle is 15 centimetres.  $A$  is the mid-point of chord  $PQ$ .  
The length of  $AB$  is 27 centimetres. Calculate the length of  $PQ$ .

Q2)

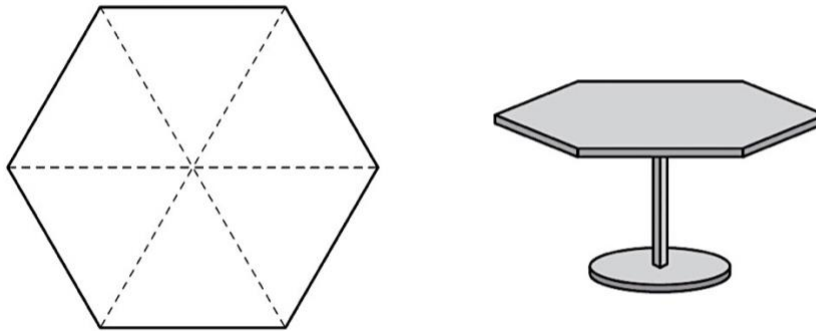


$AC$  is a tangent to the circle, centre  $O$ , with point of contact  $B$ .  
 $DE$  is a diameter of the circle and  $F$  is a point on the circumference.  
Angle  $ABD$  is  $77^\circ$  and angle  $DEF$  is  $64^\circ$ .  
Calculate the size of angle  $BDF$ .



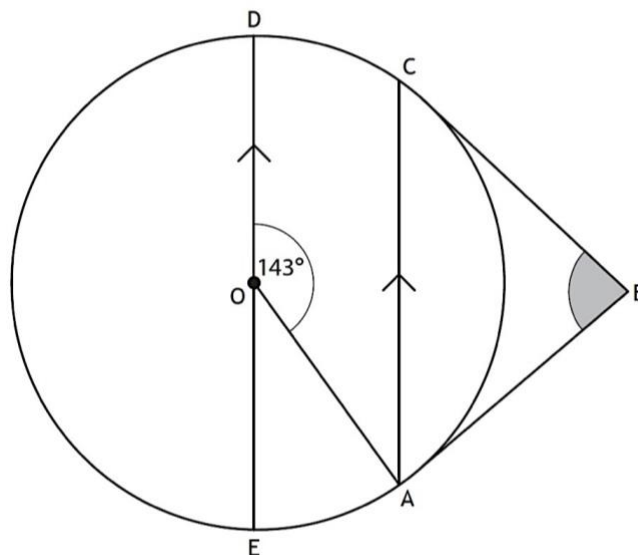
Q3) The top of a table is in the shape of a regular hexagon.

The three diagonals of the hexagon which are shown as dotted lines in the diagram below each have length 40 centimetres.



Calculate the area of the top of the table.

Q4) The diagram below shows a circle, centre O.



$AB$  and  $CB$  are tangents to the circle.

$AC$  and  $ED$  are parallel.

Angle  $AOD$  is  $143^\circ$ .

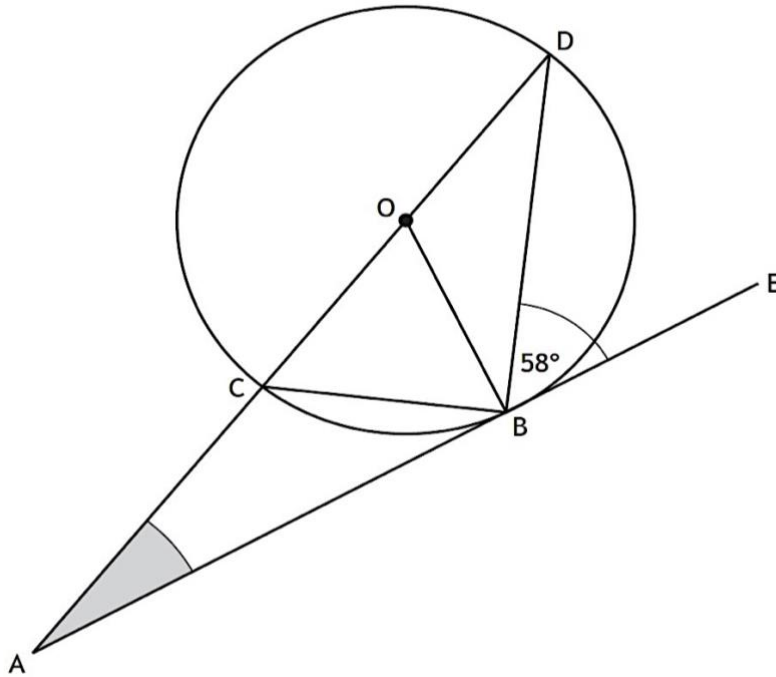
Calculate the size of angle  $ABC$ .



Q5) In the diagram shown below:

ABE is a tangent to the circle centre O.

Angle DBE is  $58^\circ$ .



Calculate the size of angle CAB.



## Properties of Shapes - Solutions

Q1)  $PQ = 18 \text{ cm}$

Q2)  $BDF = 39^\circ$

Q3) Area =  $1,039.2 \text{ cm}^2$

Q4)  $ABC = 74^\circ$

Q5)  $CAB = 26^\circ$