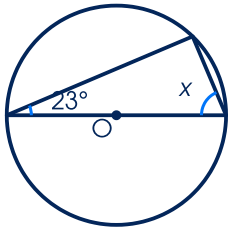
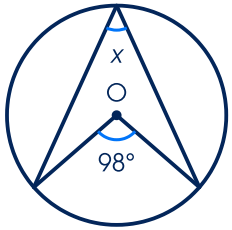
GCSE HIGHER · REVISION MAT 5

Circle theorems

1 AB is a diameter. Find *x*.

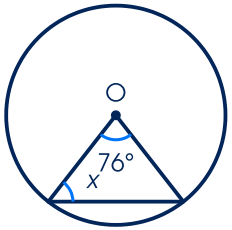


2 O is the centre. Find *x*.



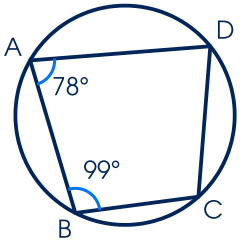
3 O is the centre. Find *x*.

Give reasons for your answer.

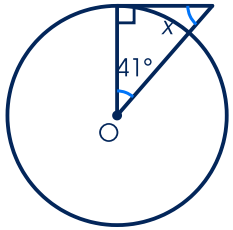


4 ABCD is a cyclic quadrilateral.

Find angles C and D.



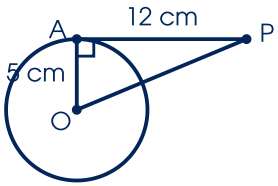
5 PT is a tangent at T. Find *x*.



6 PA is a tangent to a circle with centre O and radius 5 cm.

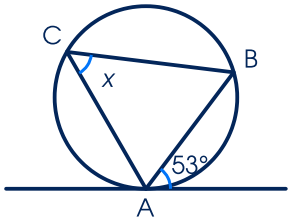
PA = 12 cm.

Find OP.



7 The line is a tangent at A. Find *x*.

Give reasons for your answer.

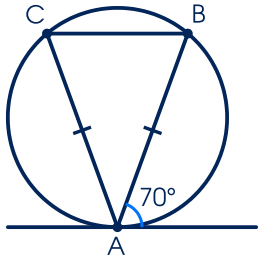


8 AT is a tangent at A.

B and C lie on the circle with AB = AC.

The angle between AT and AB is 70°.

Find angle BAC.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Circle theorems

1 $x = 67°$

2 $x = 49°$

3 $x = (180 - 76) \div 2 = 52°$

4 C = 102°, D = 81°

5 $x = 49°$

6 Angle OAP = 90°

OP = $\sqrt{25 + 144}$ = 13 cm

7 $x = 53°$

(alternate segment theorem)

8 Alternate segment:

angle ACB = 70°

AB = AC, so angle ABC = 70°

BAC = 40°