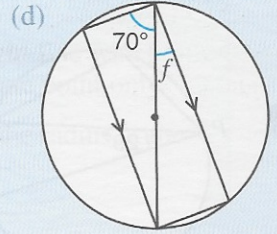
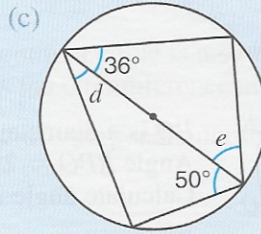
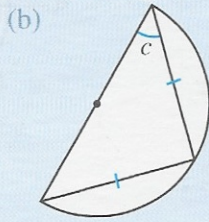
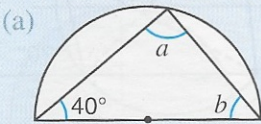


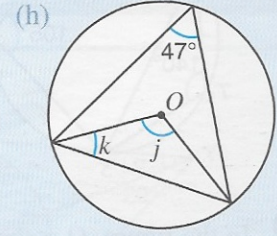
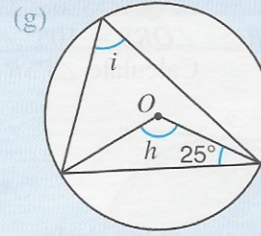
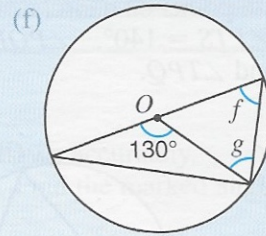
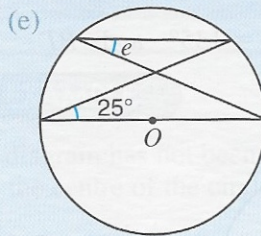
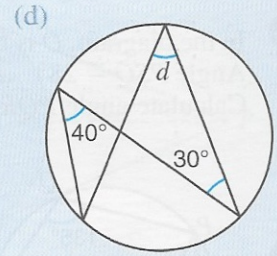
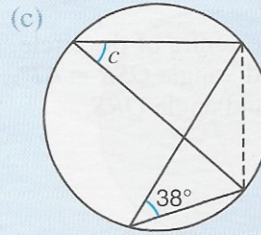
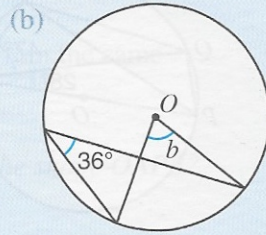
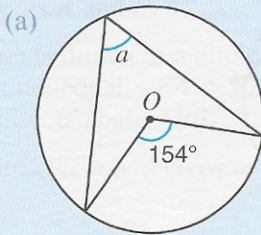
# Exercise 24.1

The diagrams in this exercise have not been drawn accurately.

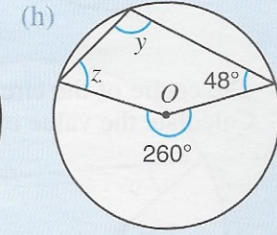
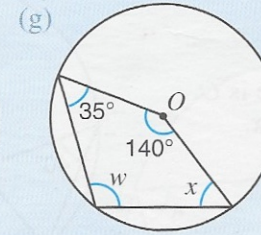
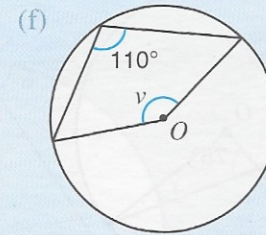
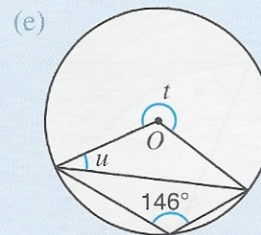
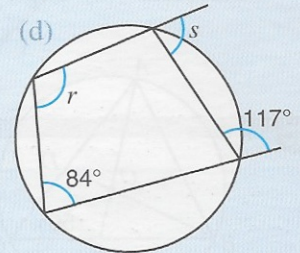
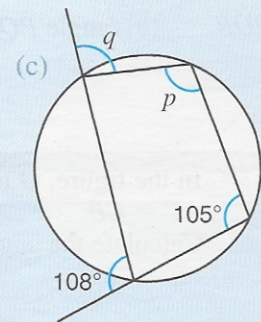
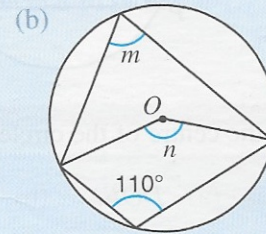
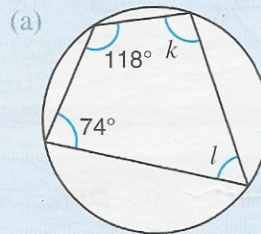
- 1 The following diagrams show triangles drawn in semi-circles. Work out the size of the marked angles.



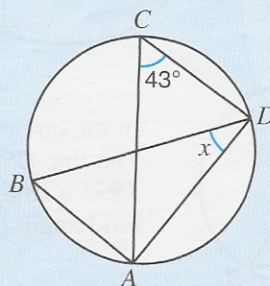
- 2  $O$  is the centre of the circle. Work out the size of the marked angles.



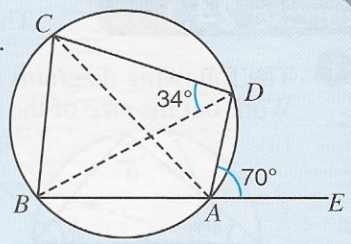
- 3  $O$  is the centre of the circle. Work out the size of the marked angles.



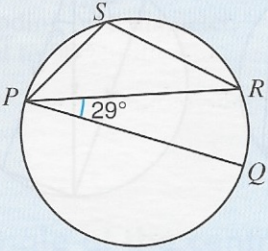
- 4 In the diagram  $BD$  is a diameter. Angle  $ACD = 43^\circ$ . Calculate angle  $x$ .



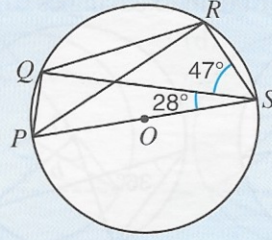
- 5  $ABCD$  is a cyclic quadrilateral, with  $BA$  produced (extended) to  $E$ . Angle  $EAD = 70^\circ$  and angle  $CDB = 34^\circ$ . Calculate angles  $BCD$  and  $CAD$ .



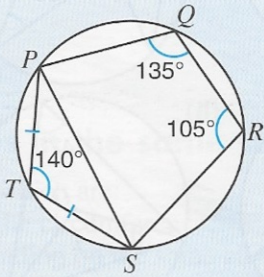
- 6  $PQ$  is a diameter. Angle  $RPQ = 29^\circ$ . Calculate angle  $PSR$ .



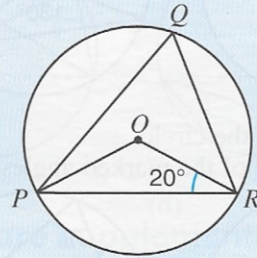
- 7 In the diagram,  $O$  is the centre of the circle. Angle  $PSQ = 28^\circ$  and angle  $QSR = 47^\circ$ . Calculate angle  $PQR$  and angle  $QRS$ .



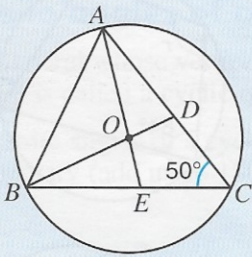
- 8  $P, Q, R, S$  and  $T$  are points on a circle.  $\angle QRS = 105^\circ$ ,  $\angle PTS = 140^\circ$ ,  $\angle PQR = 135^\circ$  and  $PT = TS$ . Calculate  $\angle PSR$  and  $\angle TPQ$ .



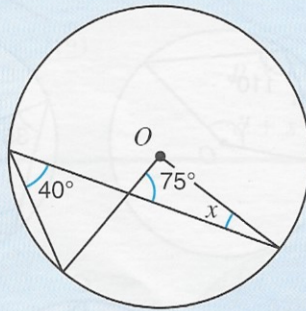
- 9 In the figure,  $O$  is the centre of the circle. Angle  $ORP = 20^\circ$ . Calculate (a) angle  $POR$ , (b) angle  $PQR$ .



- 10 In the figure,  $O$  is the centre of the circle.  $AC = CB$ . Calculate the angles (a)  $DOE$ , (b)  $ABD$ , (c)  $DBE$ .



- 11 The centre of the circle is  $O$ . Calculate the value of  $x$ .



- 12 In the circle, centre  $O$ ,  $QR$  is a diameter. The line  $QS$  is a common chord of the two circles.  $TR$  is a straight line. Find angle  $QPT$ .

