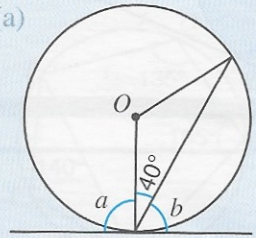
Exercise 24.2

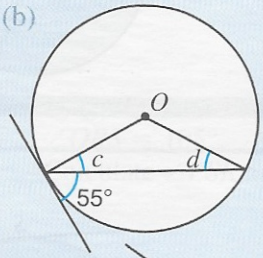
The diagrams in this exercise have not been drawn accurately.

1 O is the centre of the circle.
Work out the size of the marked angles.

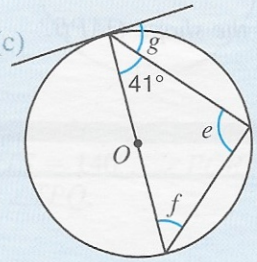
(a)



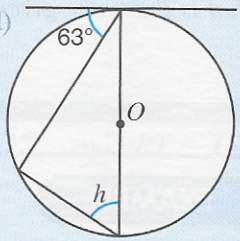
(b)



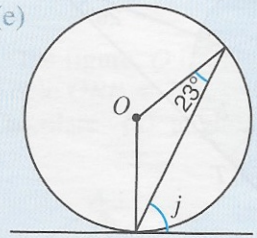
(c)



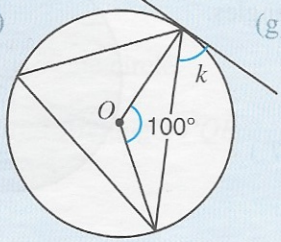
(d)



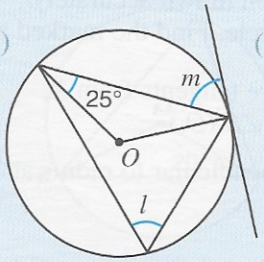
(e)



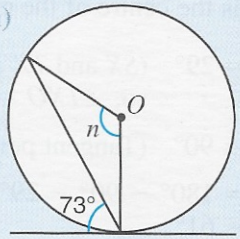
(f)



(g)

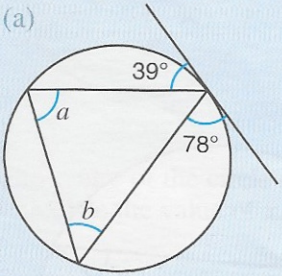


(h)

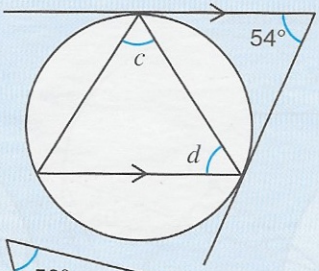


2 O is the centre of the circle.
Work out the size of the marked angles.

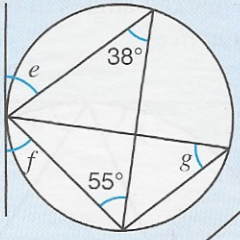
(a)



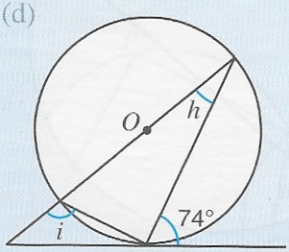
(b)



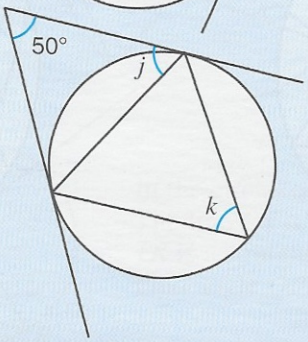
(c)



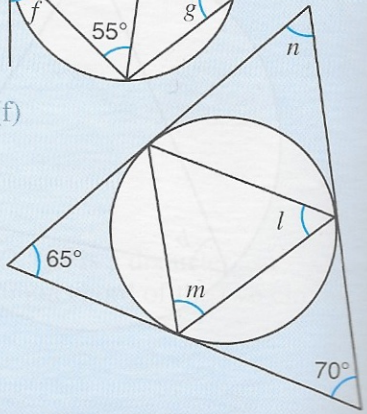
(d)



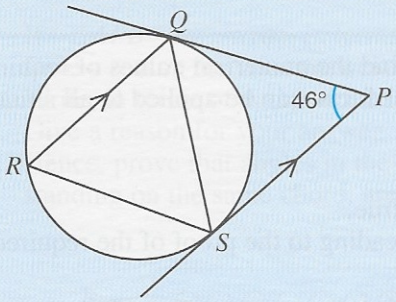
(e)



(f)



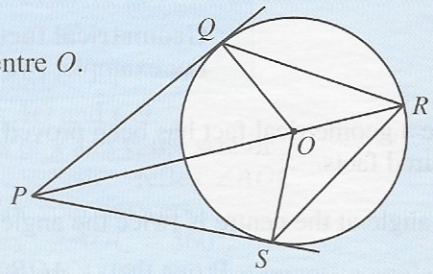
3



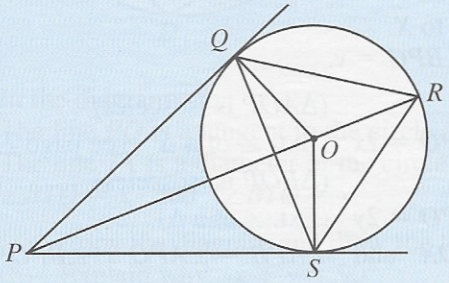
In the diagram, PQ and PS are tangents.
RQ is parallel to SP.
Angle $SPQ = 46°$.
Calculate (a) angle QRS,
(b) angle RSQ.

4

In the diagram, PQ and PS are tangents to the circle centre O.
POR is a straight line.
Angle $SRQ = 50°$.
Calculate (a) $\angle SOQ$,
(b) $\angle SPO$,
(c) $\angle RSO$.



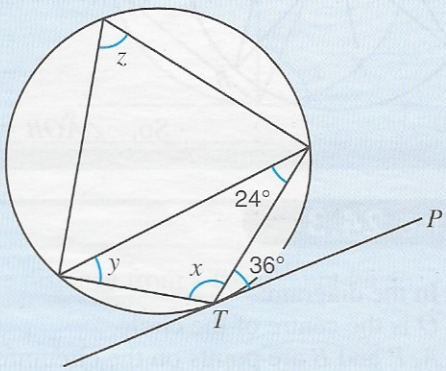
5



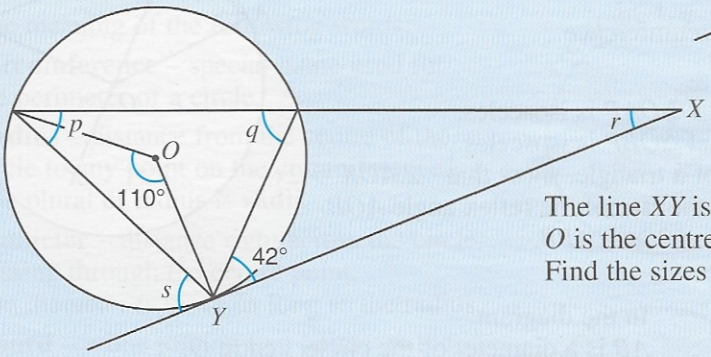
PQ and PS are tangents to the circle centre O.
POR is a straight line.
Angle $SPO = 18°$.
Calculate (a) $\angle POS$,
(b) $\angle OSR$,
(c) $\angle SQR$.

6

In the diagram, PT is the tangent at T to the circle.
Find the sizes of the angles marked x, y and z.



7



The line XY is a tangent to the circle and
O is the centre of the circle.
Find the sizes of the angles marked p, q, r and s.

8

In the figure, AB touches the circle at T and CD is a diameter.
Write down the value of $x + 2y$.