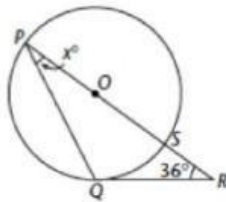


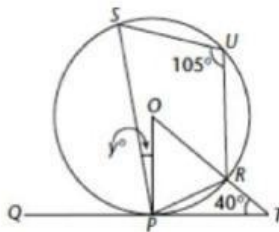
1. In the diagram below,  $QR$  is a tangent to the circle  $PQS$  with centre  $O$ , at  $Q$ .  $POS$  is a straight line.  
 Dalam rajah di bawah,  $QR$  ialah tangen kepada bulatan  $PQS$  yang berpusat  $O$ , di  $Q$ .  $POS$  ialah garis lurus.



Calculate the value of  $x$ .  
 Hitung nilai  $x$ .

- ☐ A 27  
☐ B 36  
☐ C 54  
☐ D 90

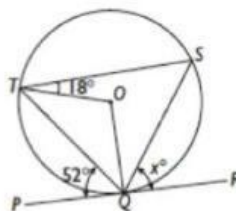
2. In the diagram below,  $QPT$  is a tangent to the circle with centre  $O$ , at  $P$ .  $ORT$  is a straight line.  
 Dalam rajah di bawah,  $QPT$  ialah tangen kepada bulatan berpusat  $O$ , di  $P$ .  $ORT$  ialah garis lurus.



The value of  $y$  is  
 Nilai  $y$  ialah

- ☐ A 10  
☐ B 15  
☐ C 50  
☐ D 65

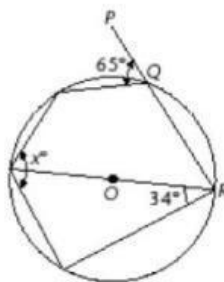
3. The diagram shows a circle  $QST$  with centre  $O$ .  $PQR$  is a tangent to the circle.  
 Rajah di bawah menunjukkan sebuah bulatan  $QST$  yang berpusat  $O$ .  $PQR$  ialah tangen kepada bulatan itu.



Find the value of  $x$ .  
 Cari nilai  $x$ .

- ☐ A 52  
☐ B 54  
☐ C 56  
☐ D 57

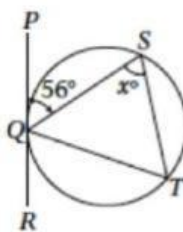
4. In the diagram,  $O$  is the centre of the circle.  $PQR$  is a straight line.  
 Dalam rajah di bawah,  $O$  ialah pusat bulatan.  $PQR$  ialah garis lurus.



Find the value of  $x$ .  
 Cari nilai  $x$ .

- ☐ A 65  
☐ B 115  
☐ C 121  
☐ D 171

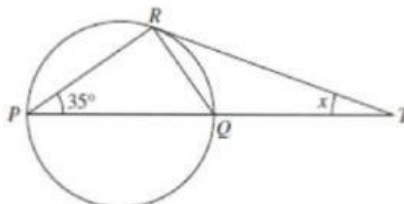
5. In the diagram below,  $PQR$  is a tangent to the circle  $QST$  at point  $Q$ .  
 Dalam rajah di bawah,  $PQR$  ialah tangen kepada bulatan  $QST$  di titik  $Q$ .



The length of arc  $QS$  is equal to the length of arc  $ST$ .  
 Find the value of  $x$ .  
 Panjang lengkok  $QS$  sama dengan panjang lengkok  $ST$ .  
 Cari nilai  $x$ .

- ☐ A 28  
☐ B 34  
☐ C 56  
☐ D 68

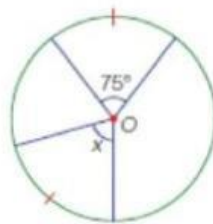
6. In the diagram, the diameter  $PQ$  is extended to  $T$  and  $TR$  is a tangent.  
 Dalam rajah di bawah, diameter  $PQ$  dipanjangkan kepada titik  $T$  dan  $TR$  ialah tangen.



Find the value of  $x$ .  
 Cari nilai  $x$ .

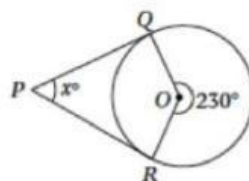
- ☐ A  $20^\circ$   
☐ B  $35^\circ$   
☐ C  $45^\circ$   
☐ D  $60^\circ$

7. In the diagram,  $O$  is the centre of the circle. Find the value of  $x$ .  
 Dalam rajah,  $O$  ialah pusat bulatan. Cari nilai  $x$ .



- ☐ A  $37.5^\circ$   
☐ B  $42^\circ$   
☐ C  $75^\circ$   
☐ D  $85^\circ$

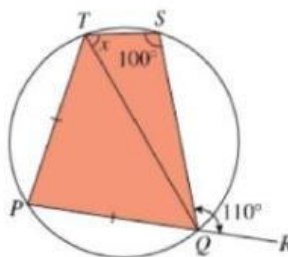
8. In the diagram below,  $PQ$  and  $PR$  are tangents to the circle with centre  $O$ .  
 Dalam rajah di bawah,  $PQ$  dan  $PR$  ialah tangen kepada bulatan berpusat  $O$ .



The value of  $x$  is  
 Nilai  $x$  ialah

- ☐ A 25  
☐ B 50  
☐ C 60  
☐ D 65

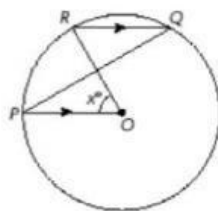
9. In the diagram,  $PQR$  is a straight line and  $PT = PQ$ .  
 Dalam rajah di bawah,  $PQR$  ialah garis lurus dan  $PT = PQ$ .



Find the value of  $x$ .  
 Cari nilai  $x$ .

- ☐ A  $83^\circ$   
☐ B  $78^\circ$   
☐ C  $60^\circ$   
☐ D  $50^\circ$

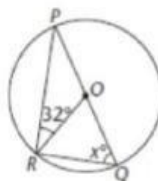
10. In the diagram,  $O$  is the centre of the circle and  $\angle OPQ = 30^\circ$ .  
 Dalam rajah di bawah,  $O$  ialah pusat bulatan dan  $\angle OPQ = 30^\circ$ .



Find the value of  $x$ .  
 Cari nilai  $x$ .

- ☐ A 15  
☐ B 30  
☐ C 45  
☐ D 60

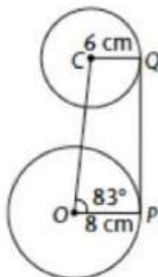
11. In the diagram,  $O$  is the centre of the circle and  $POQ$  is a straight line.  
 Dalam rajah di bawah,  $O$  ialah pusat bulatan.  $POQ$  ialah garis lurus.



Find the value of  $x$ .  
 Cari nilai  $x$ .

- ☐ A 29  
☐ B 58  
☐ C 64  
☐ D 116

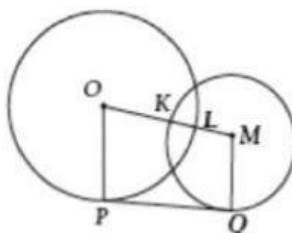
12. The diagram shows two circles with respective centres  $O$  and  $C$ .  
 Rajah di bawah menunjukkan dua bulatan masing-masing berpusat  $O$  dan  $C$ .



$PQ$  is a common tangent to the circles. Find the area, in  $\text{cm}^2$ , of the quadrilateral  $COPQ$ .  
 $PQ$  ialah tangen sepunya kepada bulatan itu. Cari luas, dalam  $\text{cm}^2$ , sisi empat  $COPQ$ .

- ☐ A 112.28  
☐ B 114.02  
☐ C 116.3  
☐ D 118.8

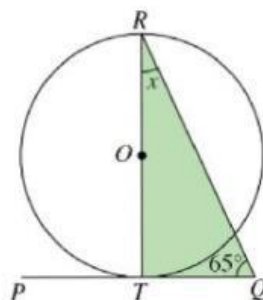
13. In the diagram below,  $PQ$  is a common tangent to the circles with centres  $O$  and  $M$  respectively.   
 Dalam rajah di bawah,  $PQ$  ialah tangen sepunya kepada bulatan-bulatan yang masing-masing berpusat  $O$  dan  $M$ .



Given  $OP = 9$  cm,  $MQ = 8$  cm and  $PQ = 10$  cm, find the length of  $LM$ , in cm.   
 Diberi  $OP = 9$  cm,  $MQ = 8$  cm dan  $PQ = 10$  cm, cari panjang  $LM$ , dalam cm.

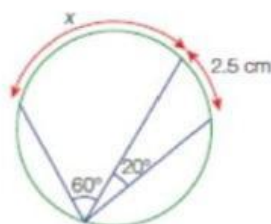
- ☐ A 1.01  
☐ B 1.05  
☐ C 1.07  
☐ D 1.11

14. In the diagram,  $OT$  is the radius of the circle and  $PQ$  is the tangent. Find the value of  $x$ .   
 Dalam rajah di bawah,  $OT$  ialah jejari bagi bulatan itu dan  $PQ$  ialah tangen. Cari nilai  $x$ .



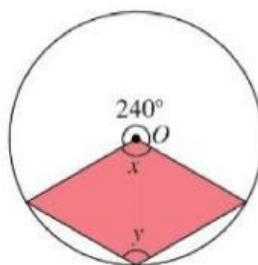
- ☐ A  $55^\circ$   
☐ B  $35^\circ$   
☐ C  $25^\circ$   
☐ D  $45^\circ$

15. Find the value of  $x$  in the diagram.   
 Cari nilai  $x$  dalam rajah.



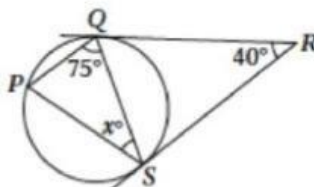
- ☐ A 7.5  
☐ B 5  
☐ C 4.5  
☐ D 2.5

16. Given  $O$  is the centre of the circle. Which of the following are the correct values for  $x$  and  $y$ ?  
 Diberi  $O$  ialah pusat bulatan. Antara berikut, yang manakah nilai yang betul bagi  $x$  dan  $y$ ?



- ☐ A  $x = 100^\circ, y = 80^\circ$   
☐ B  $x = 120^\circ, y = 80^\circ$   
☐ C  $x = 120^\circ, y = 120^\circ$   
☐ D  $x = 80^\circ, y = 120^\circ$

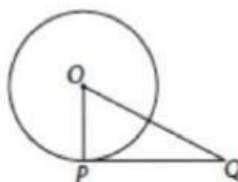
17. In the diagram below, the tangents  $QR$  and  $SR$  touch the circle  $PQS$  at point  $Q$  and point  $S$  respectively.  
 Dalam rajah di bawah, tangen  $QR$  dan  $SR$  menyentuh bulatan  $PQS$  masing-masing di titik  $Q$  dan titik  $S$ .



The value of  $x$  is  
 Nilai  $x$  ialah

- ☐ A 25  
☐ B 30  
☐ C 35  
☐ D 40

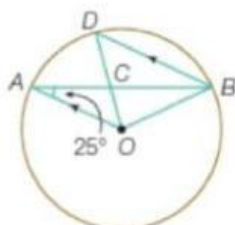
18. In the diagram below, the circle with centre  $O$  has a radius of 8 cm.  $PQ$  is a tangent to the circle.  
 Dalam rajah di bawah, bulatan berpusat  $O$  mempunyai jejari 8 cm.  $PQ$  ialah tangen kepada bulatan itu.



Given  $\angle POQ = 50^\circ$ , find the length, in cm, of  $PQ$ .  
 Diberi  $\angle POQ = 50^\circ$ , cari panjang, dalam cm, bagi  $PQ$ .

- ☐ A 8.24  
☐ B 9.53  
☐ C 9.83  
☐ D 10.12

19. The diagram shows a circle with the centre  $O$ . The straight line  $OA$  is parallel to the straight line  $BD$ .  
*Rajah di bawah menunjukkan sebuah bulatan berpusat  $O$ . Garis lurus  $OA$  adalah selari dengan garis lurus  $BD$ .*

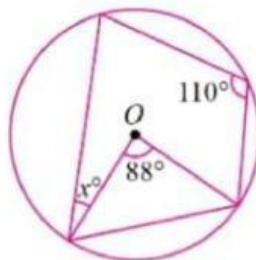


Given  $\angle OAB = 25^\circ$ , calculate  $\angle OBA$ .

*Diberi  $\angle OAB = 25^\circ$ , hitung  $\angle OBA$ .*

- ☐ A  $12.5^\circ$   
☐ B  $20^\circ$   
☐ C  $25^\circ$   
☐ D  $28.5^\circ$

20. In the diagram,  $O$  is the centre of the circle.  
*Dalam rajah di bawah,  $O$  ialah pusat bulatan.*



The value of  $x$  is  
*Nilai  $x$  ialah*

- ☐ A 22  
☐ B 24  
☐ C 44  
☐ D 64