MATHS

BOOKS - TARGET PUBLICATION

CIRCLE

Examples

1. In the adjoining figure ,seg DE is a chord of a circle with centre C.

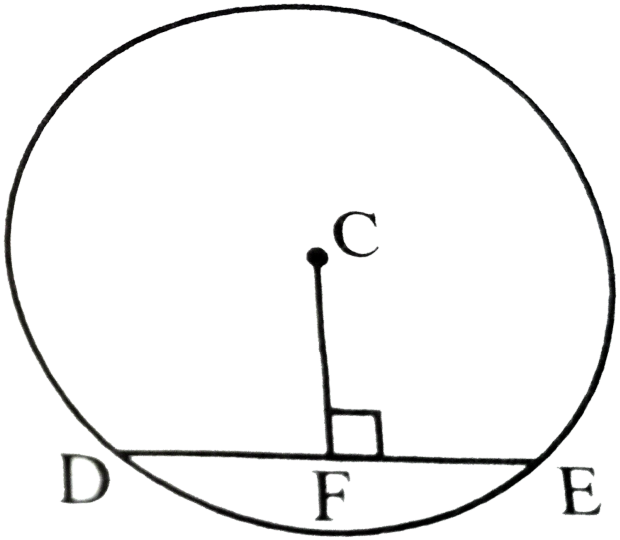
seg CF $\perp$ seg DE. If diameter of the circle is

20cm, $DE = 16cm$,

find CF. Recall and write theorems and properties which are useful

to find the solution of the above problem. Using them solve the

above problems.



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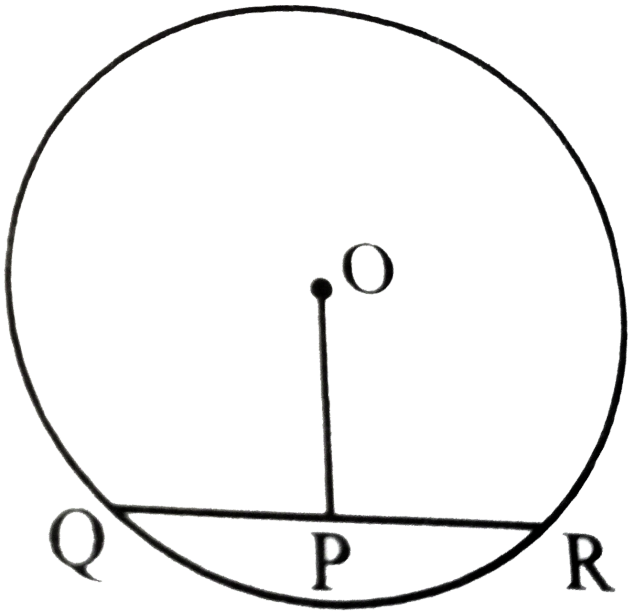
2. In the adjoining figure,seg QR is a chord of the circle with centre O.

P is the midpoint of the chord QR. If QR=24, OP=10, find radius of

the circle. To find solutions of the problem , write the theorems that are useful , Using

them, solve the problem.



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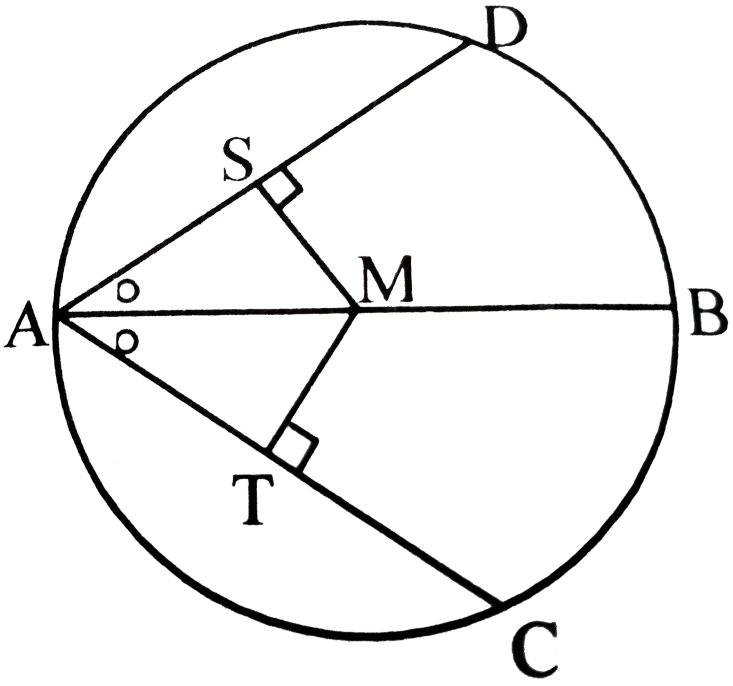
3. In the adjoining figure, M is the centre of the circle and seg AB is a diameter. Seg MS ⊥

chord AD, seg MT $\perp$ chord AC,

$\angle DAB \cong \angle CAB$.

Prove that : chord AD $\cong$ chord AC.



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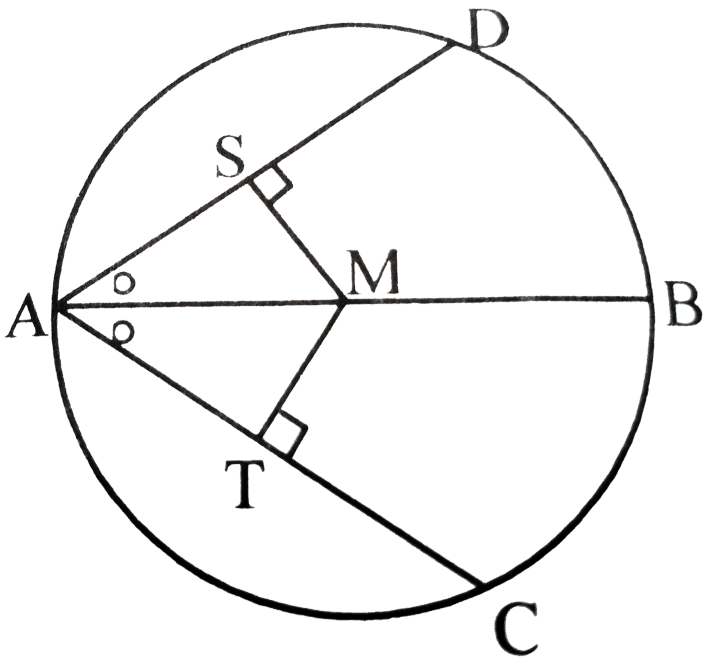
4. In the adjoining figure, M is the centre of the circle and seg AB is a diameter. Seg MS $\perp$ chord AD, seg MT $\perp$ chord AC, $\angle DAB \cong \angle CAB$.

Which of the following tests of congruence of traingles will be

useful?



A. (a) SAS

B. (b) ASA

C. (c) SSS

D. (d) AAS

Answer: D

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5. If two equal chords of a circle intersect within the circle, prove that

the segments of one chord are equal to corresponding segments

of the other chord.

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Textual Activities

1. Take two points A *and* B on the page of your note book. Draw a circle with centre A which passes through B .

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2. How many circle can be draw to pass through two given points

(a) 1 (b) 2 (c) 0 (d) as many as possible

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3. There is one and only circle passing through three non-collinear points.

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4. Take any three non-collinear points. What should be done to draw a circle passing through all these points ? Draw a circle through these points.

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5. Number of circles passing through 3 collinear points in a plane is .....

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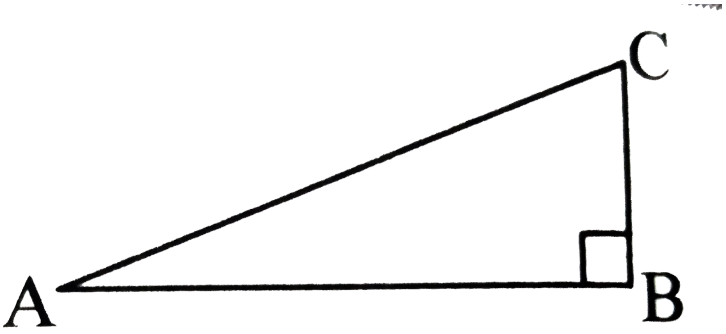
Lets Recall

1. Which theorem do we use in proving that hypotenuse is the longest side of a right

angled traingle?



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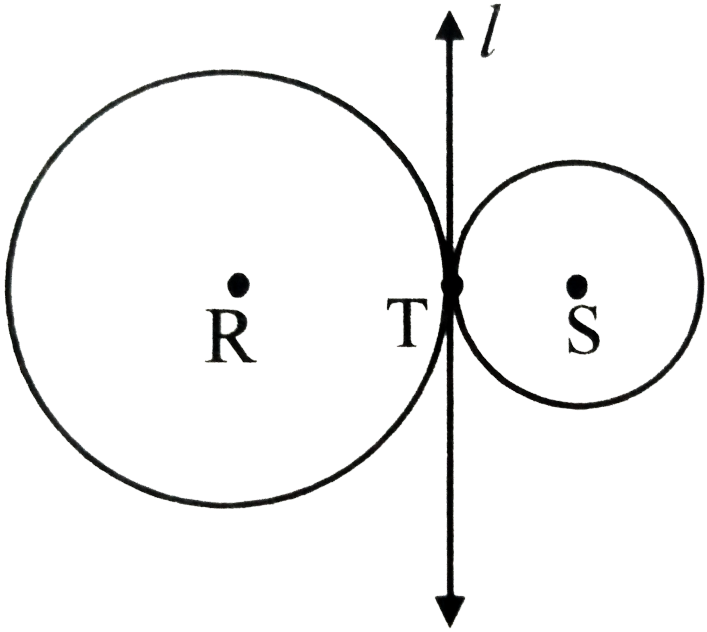
Try This

1. The circles shown in the given figure are called externally touching circles. Why?



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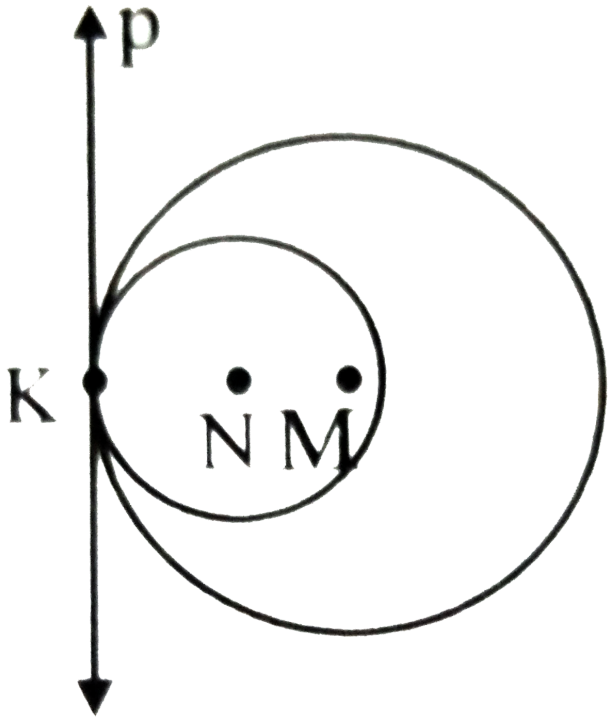
2. The circles shown in the given figure are called internally touching circles. Why?



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3. In the given figure ,

(i) the radii of the circles with centres A and B

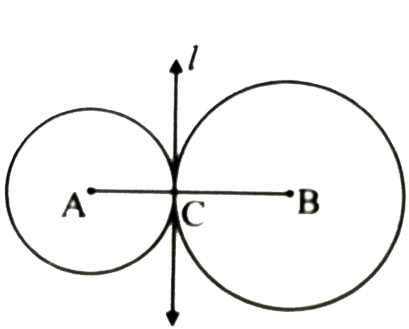
are 3cm and 4cm respectively.

(ii) the radii of the circles with centres A and B are 4cm and 3cm respectively.

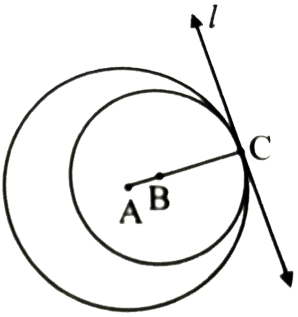
Find

(i) d(A,B) in figure (a)

(ii) d(A,B) in figure (b)



(a)



(b)

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4. If one angle of a triangle is equal to the sum of the other two,

show that the traingle is right angled.

Hint.

$\angle A = \angle B + \angle C \Rightarrow \angle A + \angle B + \angle C + \ = 180^\circ$

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5. State and prove the Pythagoras theorem

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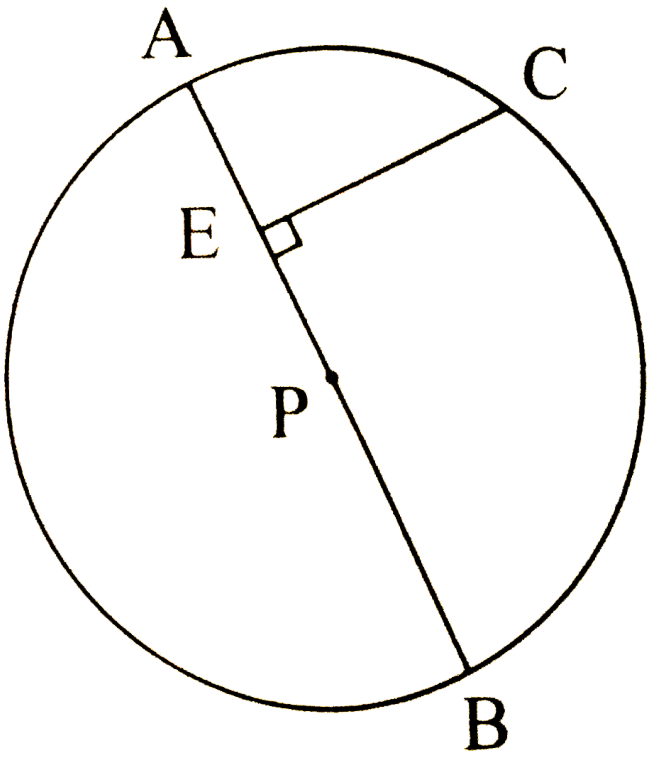

6.

In the above figure, seg AB is a diameter of a circle with centre P.C is any point on the circle. Seg CE $\perp$ seg AB. Prove that CE is the geometric mean of AE and EB. Write the proof with the help of

following steps:

(a) Draw ray CE. It intersects the circle at D.

(b) Show that CE = ED.

Write the result using theorem of intersection

of chords insides

a circle.

(d) Using CE = ED, complete the proof.

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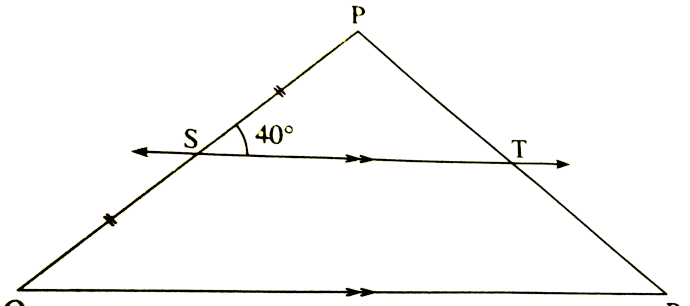
7. 

In the figure , S is the midpoint of seg PQ . Line ST || side QR and

PT = 5 cm , then find PR. Justify your answer.

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8. State and prove the Pythagoras theorem

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Practice Set 3 1

1. In the adjoining figure, the radius of a circle with centre C is 6cm,

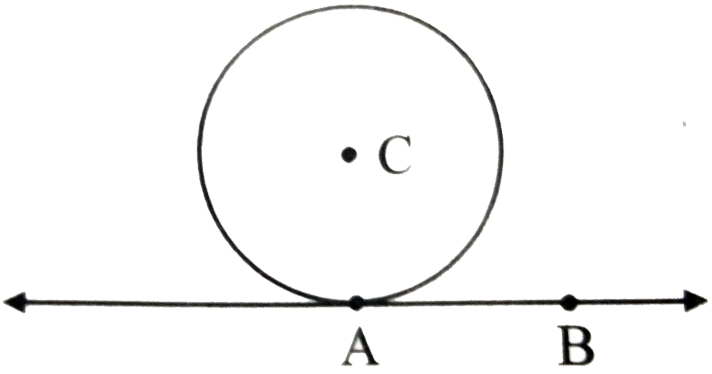
line AB is a tangent at A. Answer the following question

(i) What is the measure of $\angle CAB$? Why?

(ii) What is the distance of point C from line AB? Why?

(iii) d(A,B)=6cm, find d(B,C).

(iv) What is the measure of $\angle ABC$? Why?



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2. In the figure , O is the center of the circle. From point R, seg RM and seg RN are tangent segments touching the circle at M and N.

If OR = 10cm and radius of the circle = 5 cm,

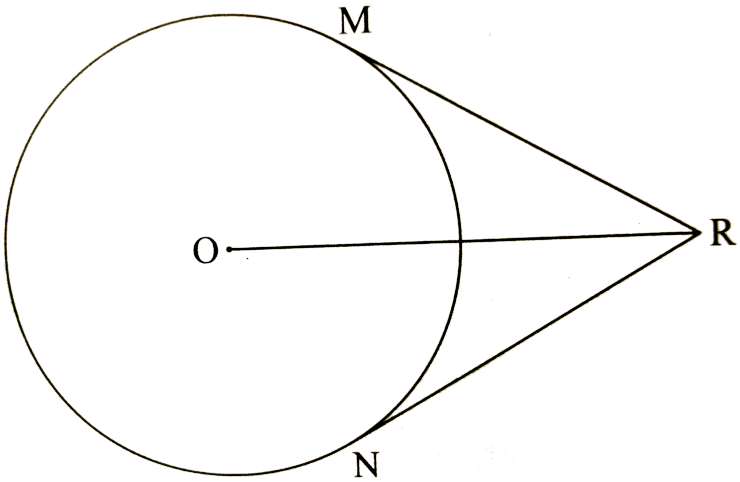
then

(i) What is the length of each tanget segment

?

(iii) What is the measure of $\angle MRO$?

(iii) Whatis the measure of $\angle MRN$?



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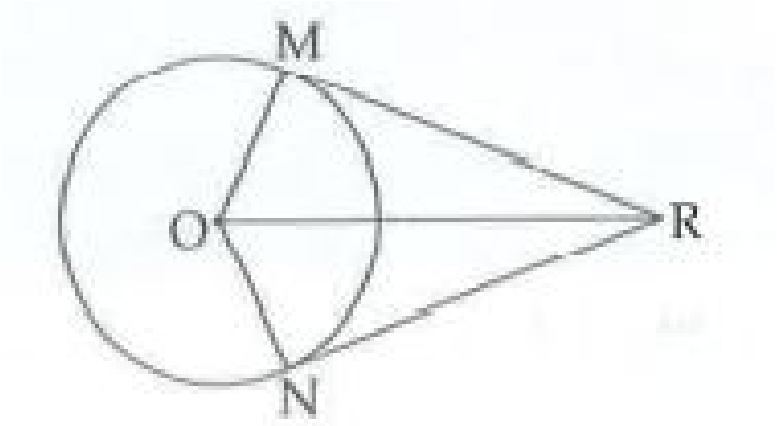
3. In the figure,seg RM and seg RN are tangent segments of a circle with centre O.Prove that seg OR divides $\angle MRN$ as well as $\angle MON$.



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4. What is the distance between two parallel tangents of a circle having radius 4.5 cm.

Justify your answer.

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Practice Set 3 2

1. Two circles having radii 3.5 cm and 4.8 cm touch each other internally.Find the distance

between their centres.

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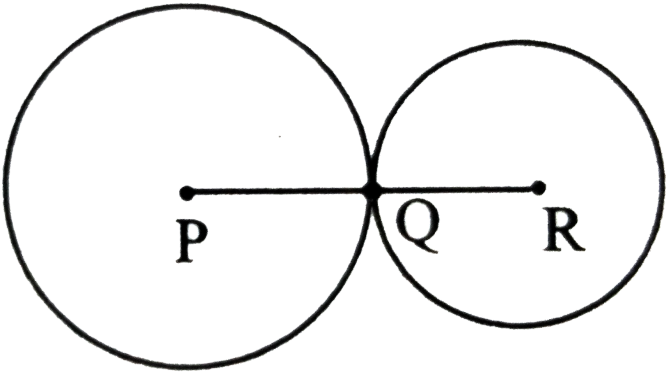
2. Two circles of radii 5.5cm and 4.2cm touch each other externally.

Find the distance between their centres.



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3. Two circles with centres at A and B, touch at T. BD is the tangent at D and TC is a common tangent. AT has length 3 and BT has length 2. The length of CD is:

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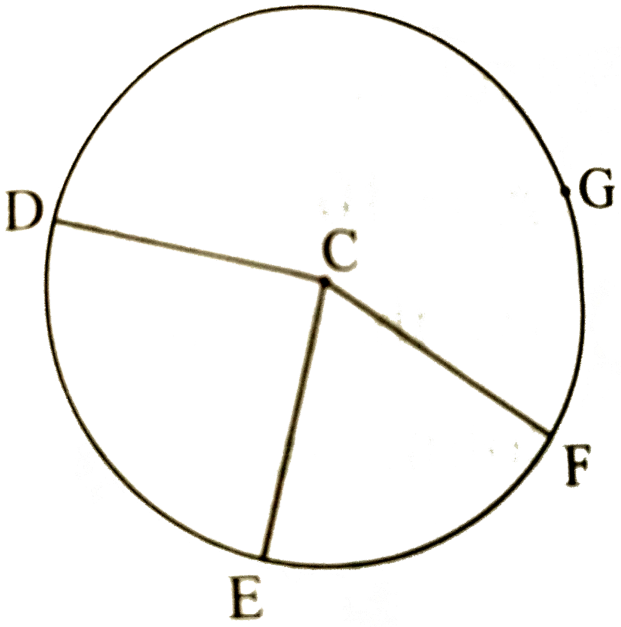
Practice Set 3 3

1. In the figure , points G,D,E,F are concyclic points of a cicle with centreC.

$\angle ECF = 70^\circ$

m (arc DGF) $= 200^\circ$,

find m(arc DE) and m(arc DEF) .



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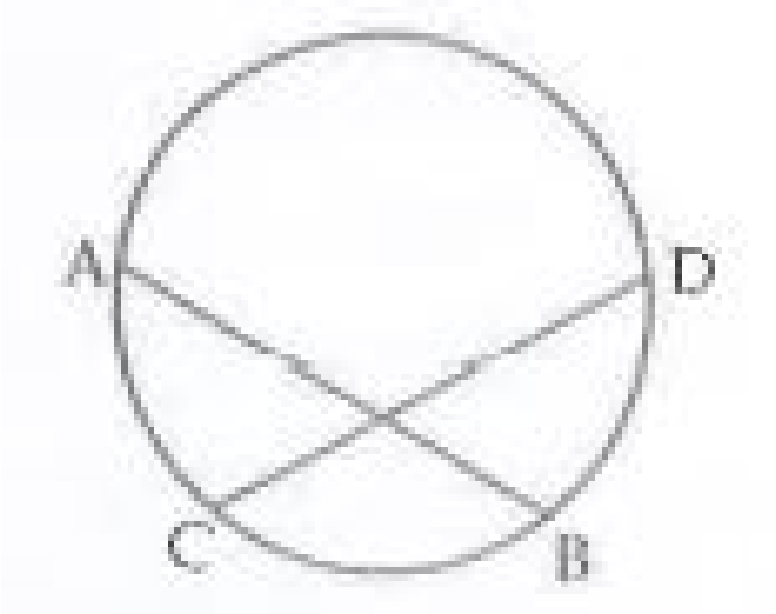
2. In the adjoining figure, $AB \cong CD$. Prove that $arcAC \cong arcBD$



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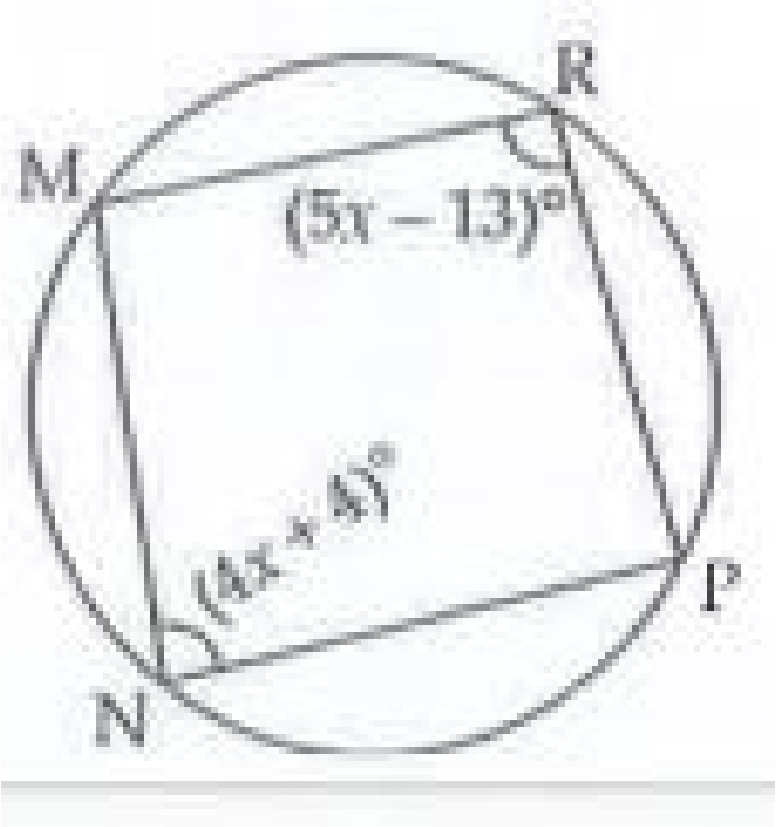
Practice Set 3 4

1. In cyclic $\square MRPN, \angle R = (5x - 13)^\circ$ and $\angle N = (4x + 4)^\circ$. Find the measures of

$\angle R$ and $\angle N$



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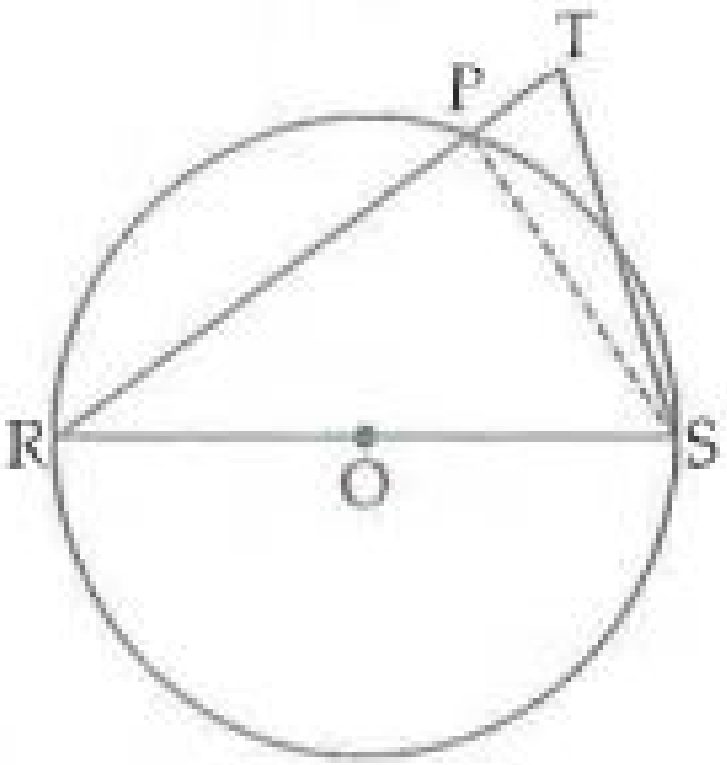
2. In the adjoining figure, seg RS is the diameter of the circle with centre 'O'. Point T is in the exterior of the circle. Prove that $\angle RTS$ is an acute angle.



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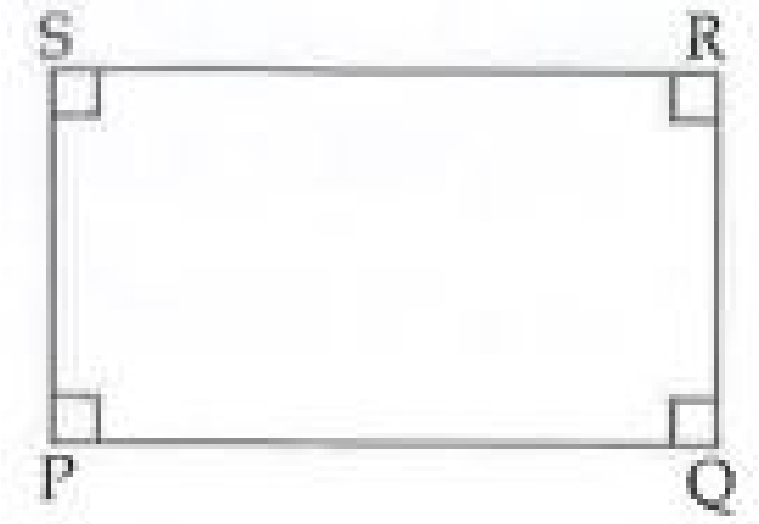
3. Prove that any rectangle is a cyclic quadrilateral.



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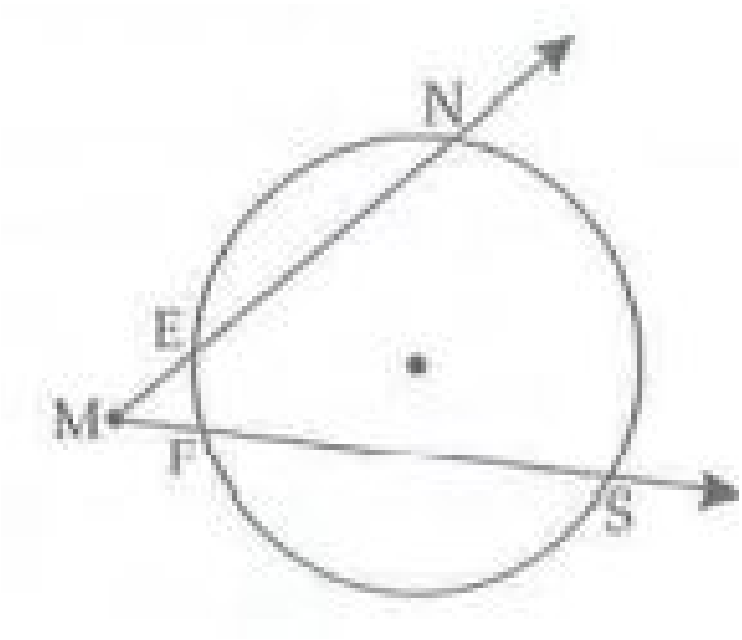
4. In the adjoining figure, $m(arcNS) = 125^\circ$, $m(arcEF) = 37^\circ$. Find $m\angle NMS$.



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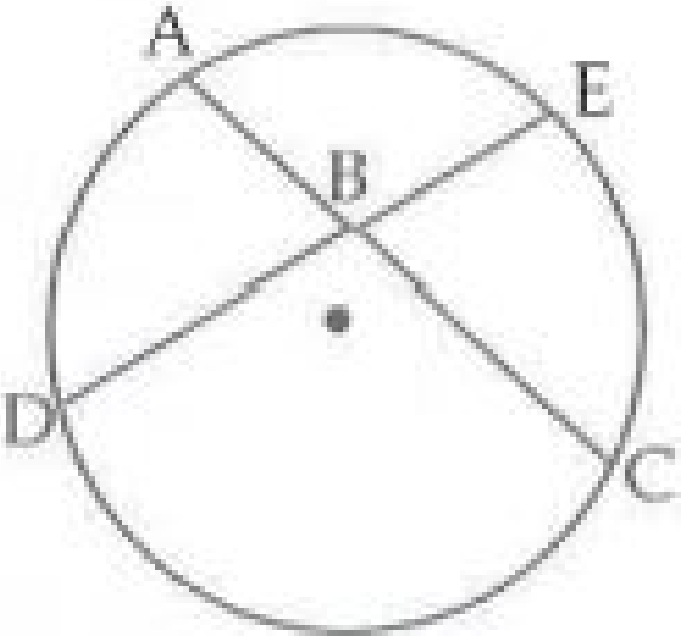
5. In the adjoining figure,chord AC and chord DE intersect at point B.If $\angle ABE = 108^\circ$ and $m(arcAE) = 95^\circ$,then find m(arc DC).



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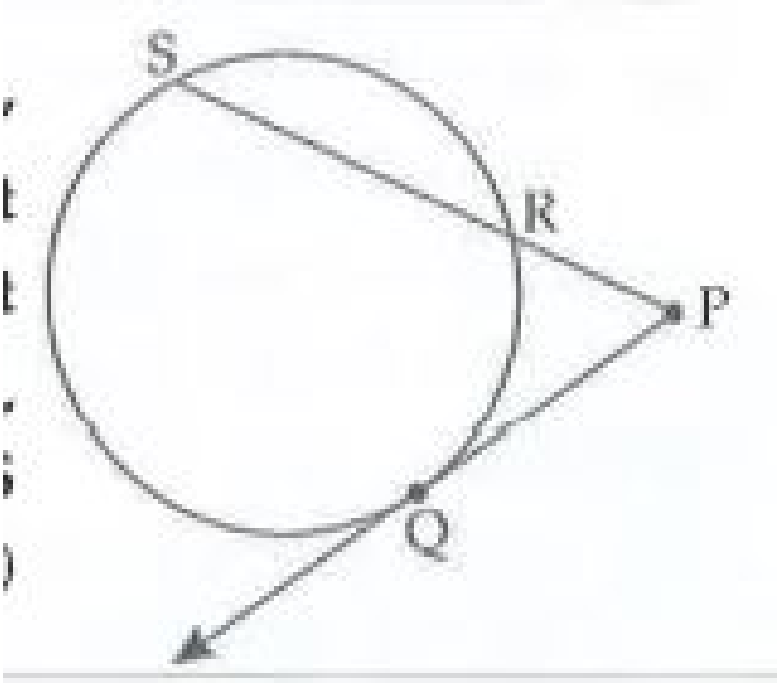
Practice Set 3 5

1. In the adjoining figure, point Q is the point of contact of tangent and the circle. If PQ=12, PR=8, then find PS and RS.



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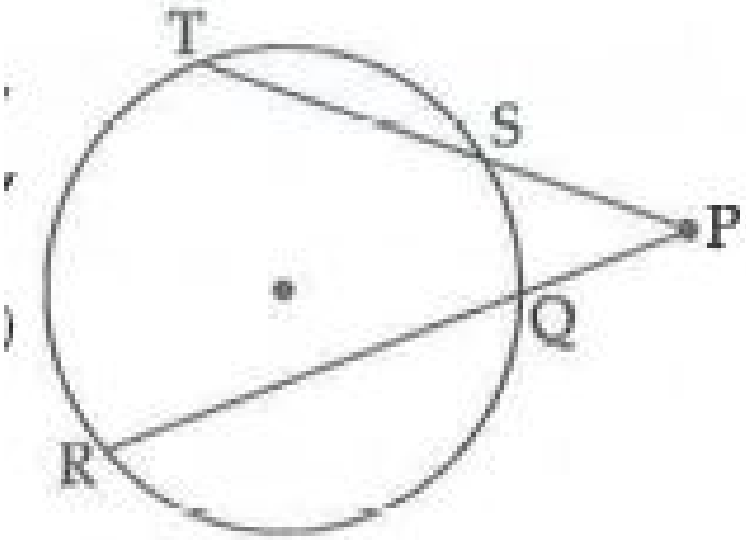
2. In the adjoining figure, if PQ=6, QR=10, PS=8, then find TS.



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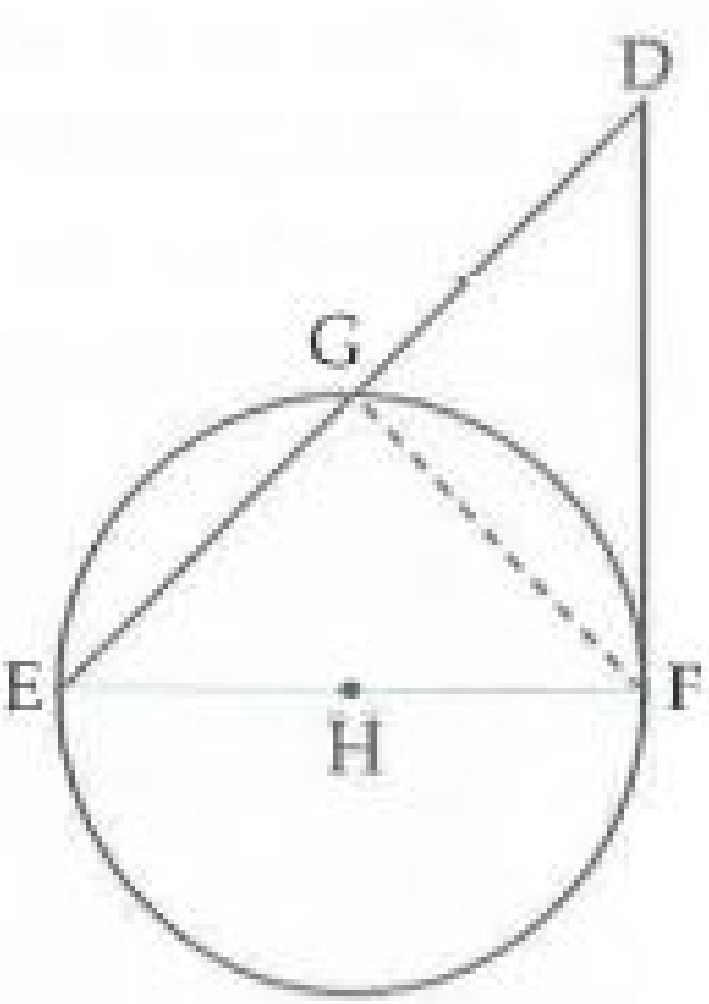
3. In the adjoining figure, seg EF is the diameter of the circle with centre H. Line DF is tangent at point F. If r is the radius of the

circle, then prove that $DE \times GE = 4r^2$.



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Problem Set 3

1. Two circles of radii 5.5 cm and 3.3 cm respectively touch each other.What is the distance between their centres?

A. 4.4cm

B. 8.8cm

C. 2.2cm

D. 8.8 or 2.2cm

Answer: D

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2. Two circles intersect each other such that each circles pass through the centre of the other.If the distance between their centres is 12,what is the radius of each circle?

A. 6cm

B. 12cm

C. 24cm

D. can't say

Answer: B

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3. A circle touches all sides of a parallelogram.so the parallelogram must be a .....

A. rectangle

B. rhombus

C. square

D. trapezium

Answer: B

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4. Length of a tangent segment drawn from a point which is at

a distnace 12.5 cm from the centre of a circle is 12cm , find the diameter of the circle.

A. (a) 25cm

B. (b) 24cm

C. (c) 7cm

D. (d) 14cm

Answer: C

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5. If two circles are touching externally,how many common tangents of them can be drawn?

A. One

B. Two

C. Three

D. Four

Answer: C

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6. $\angle ACB$ is inscribed in arc ACB of a circle with centre O.If $\angle ACB = 65^\circ$,find m(arc ACB)

A. 65°

B. 130°

C. 295°

D. 230°

Answer: D

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7. Chords AB and CD of a circle intersect inside the circle at point E. If AE=5.6, EB=10, CE=8, find ED. a)7 b)8 c)11.2 d)9

A. 7

B. 8

C. 11.2

D. 9

Answer: A

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8. In a cyclic $\square ABCD$, twice the measure of $\angle A$ is thrice the measure of $\angle C$. Find the measure of $\angle C$ a)36° b)72° c)90° d)108°

A. 36°

B. 72°

C. 90°

D. 108°

Answer: B

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9. Points A,B,C are on circle, such that $m(arcAB) = m(arcBC) = 120^\circ$. No point, except point B, is common to the arcs. What is

the type of $\triangle ABC$? a)Equilateral triangle b)Scalene triangle c)Right angled triangle d)Isosceles triangle

A. Equilateral traingle

B. Scalene traingle

C. Right angled traingle

D. Isosceles traingle

Answer: A

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10. Seg XZ is a diameter of a circle. Point Y lies in its interor. How many of the followint statements are true?

(1) It is a not possible that $\angle XYZ$ is an acute angle.

(2) $\angle XYZ$ can't be a right angle

(3) $\angle XYZ$ is an obtuse angle.

(4) Can't make a dfinite statement for measure of $\angle XYZ$

A. (a) Only One

B. (b) Only two

C. (c) Only three

D. (d) All

Answer: C

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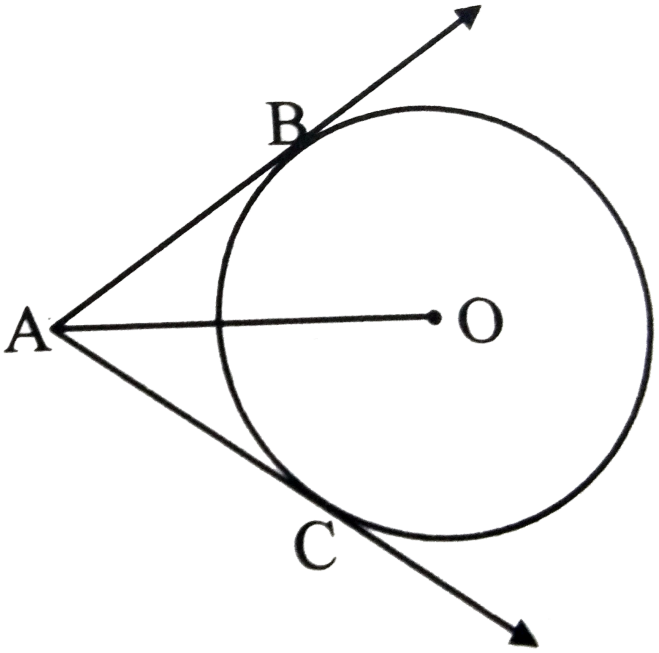
11. In the adjoining figure, O is the centre of the circle. Seg AB, seg AC

are tangent segments. Radius of the circle is r and l(AB) = r.

Prove that , □ ABOC is a square.



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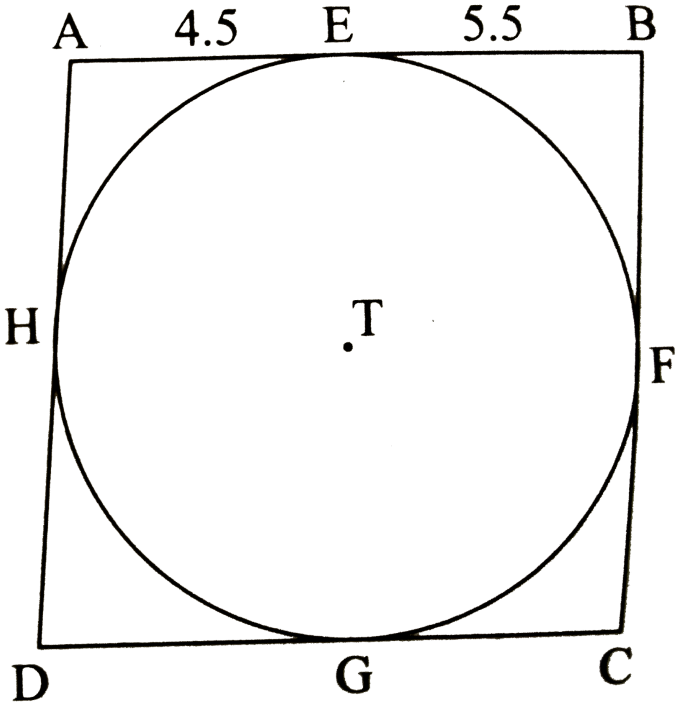
12. In the figure, □ $ABCD$ is a parallalogram.

It circumscribes the

cirlcle with centre T. Point E,F,G,H are touching

points. If AE = 4.5,

EB = 5.5, find AD.



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13. Two circles intersect each other at the points P and Q. Two straight lines through P and Q intersect one circle at the points A and C and

the other circle at B and D. Prove the AC|| BD

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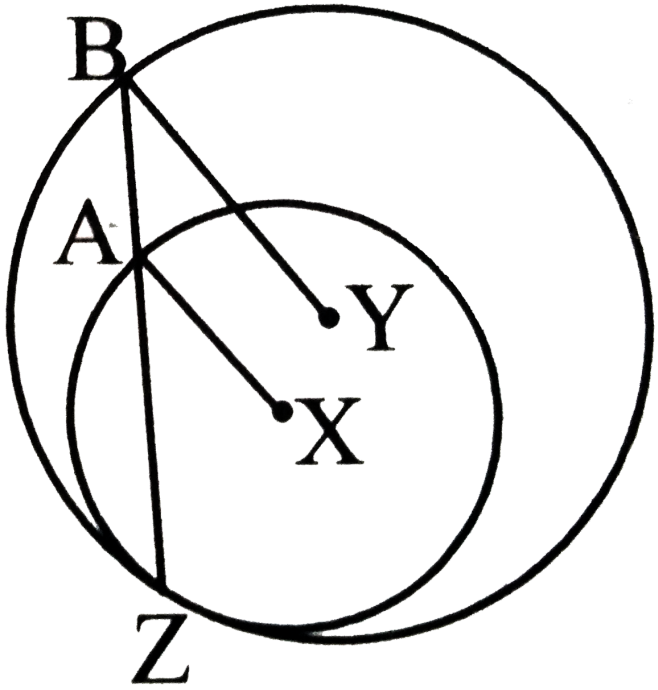
14. In the adjoining figure, circles with centres X and Y touch internally

at point Z. Seg BZ is a chord of bigger circle and it intersects smallest

circle at point A. prove that, seg AX ||seg BY.



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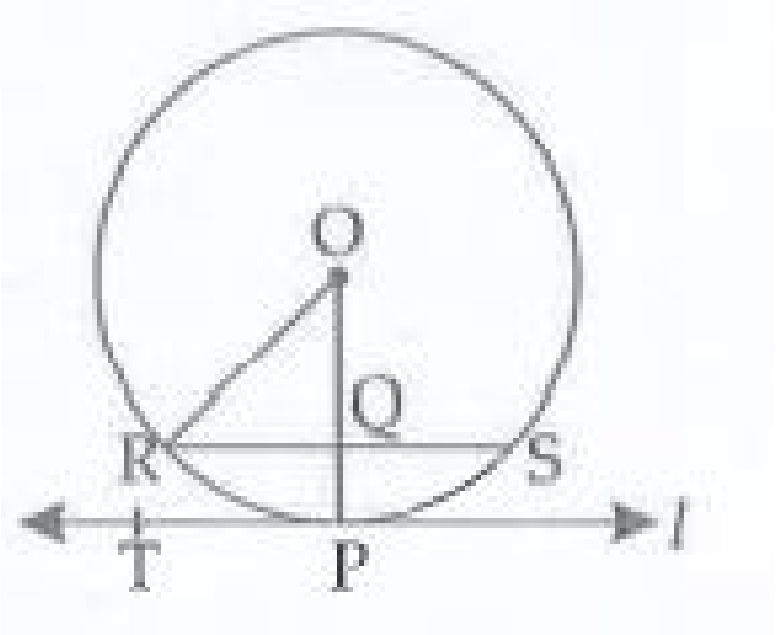
15. In the adjoining figure,line l touches the circle at P.O is the centre.Q is the mid point of

radius OP.Chord $RS \mid \mid l \in el$RS=12,find radius of the circle.



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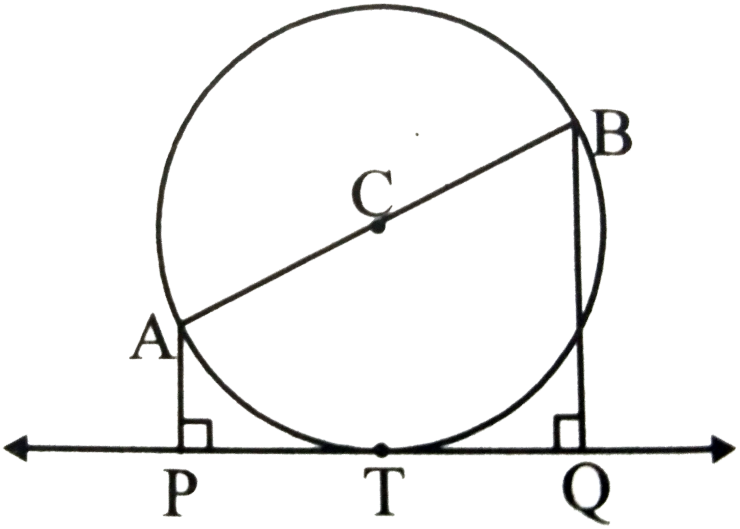
16. In the adjoining figure, seg AB is a diameter of a circle with centre C.

Line PQ is a tangent, which touches the circle at point T.

Seg AP $\perp$ line PQ and seg BQ $\perp$ line PQ.

Prove that seg CP $\cong$ seg CQ.



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17. Prove that any three points on a circle cannot be collinear.

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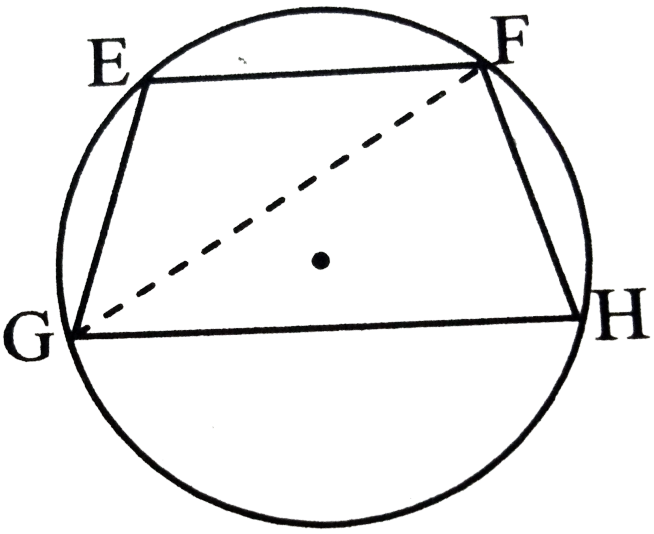
18. In the adjoining figure ,chord EF || chord GH.

Prove that, chord EG $\cong$ chord FH.



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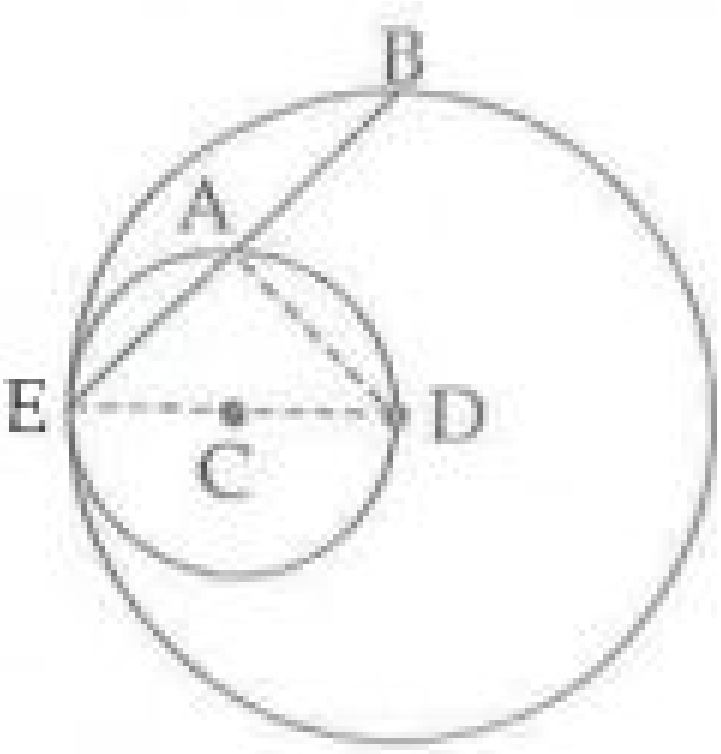
19. A circle with centre C touches the circle with centre D internally in the point E. Point D lies on the smaller circle. Chord EB of the

external circle intersects internal circle at point A. Prove that $segEA \cong segAB$



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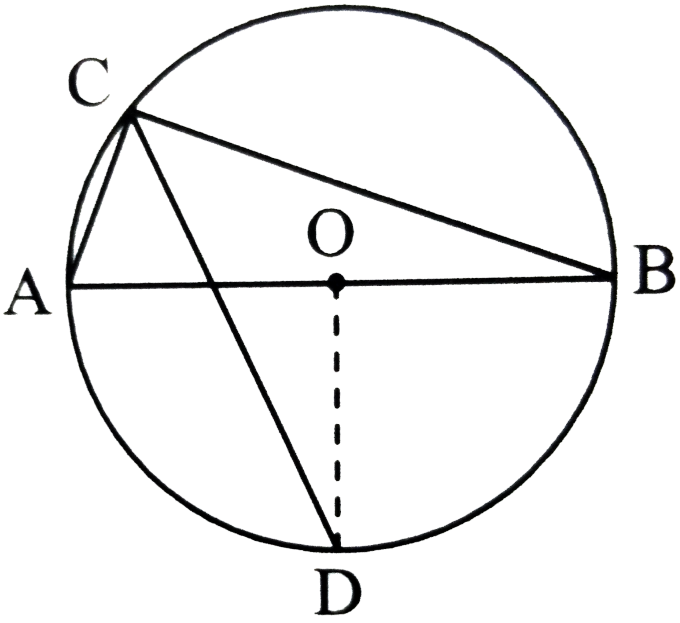
20. In the adjoining figure, seg AB is a diameter of a circle with centre O. the bisector of $\angle ACB$ intersects the circle at point D.

Prove that ,seg $AD \cong segBD$.



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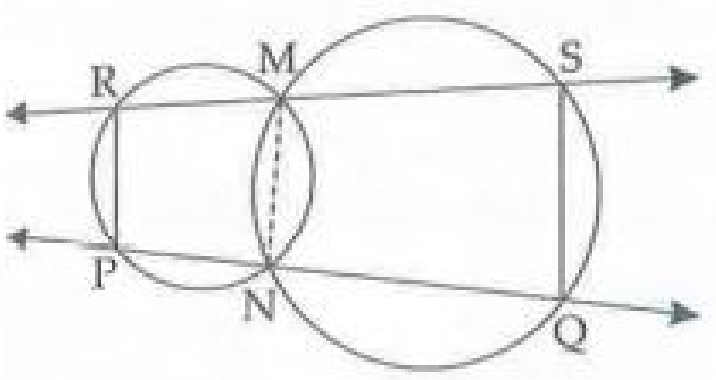
21. In the adjoining figure, two circles intersect each other at point M and N. Secants drawn from point M and N intersect cirlces at point R, S, P and Q as shown in the figure. Prove that seg PR || seg QS



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22. Two circles intersect each other at the points P and Q. Two straight lines through P and Q intersect one circle at the points A and C and

the other circle at B and D. Prove the AC|| BD

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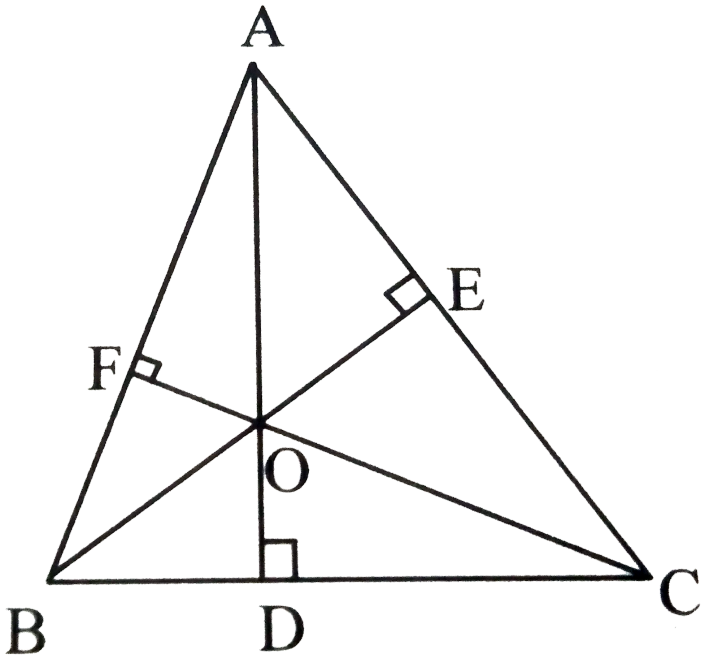
23. In the adjoining figure, seg AD $\perp$ side BC,

seg BE $\perp$ side AC,

seg CF $\perp$ side AB. Point O is the orthocentre.

Prove that , point O is the incentre of ΔDEF.



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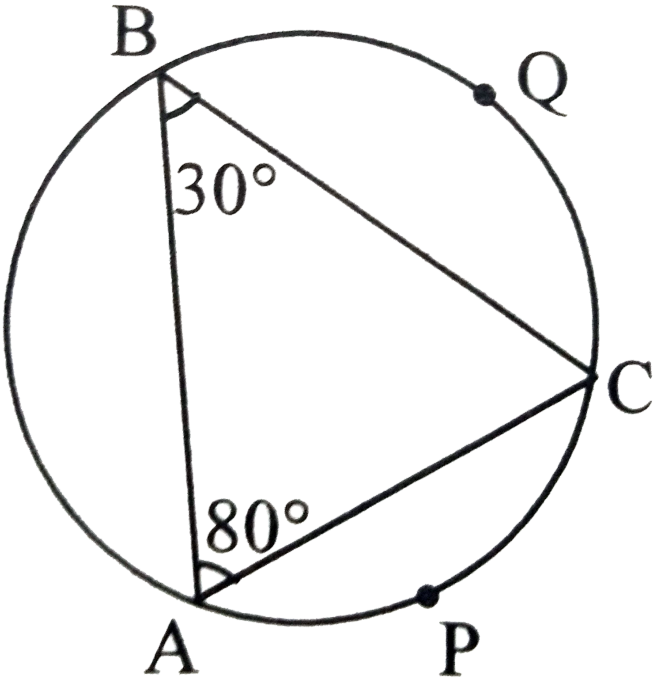
Activities For Practice

1. Complete the activity by filling the boxes.

In the given figure , $\angle BAC = 80^\circ$, $\angle ABC = 30^\circ$ and

$m(arcBQC) = 160^\circ$.

Find (i) $m(arcAPC)$ (ii) $m(arcAB)$.



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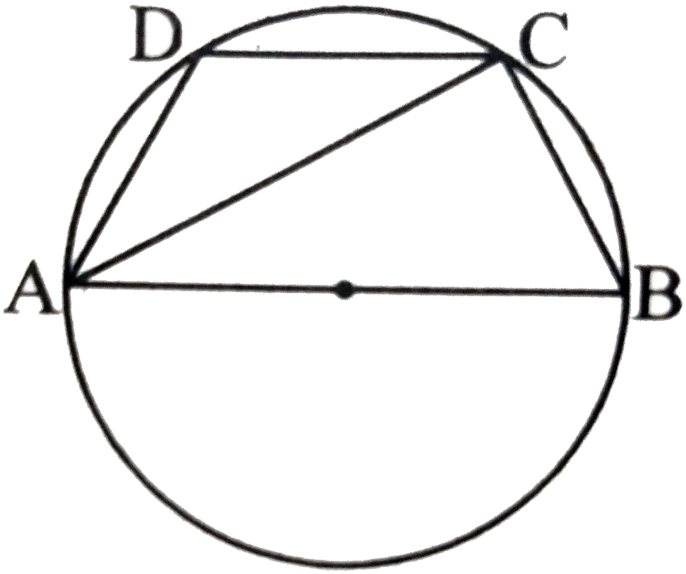
2. In the figure □ ABCD is a cyclic quadrilateral.Seg AB is a diameter.

If $\angle ADC = 120^\circ$, find the measure of $\angle BAC$.



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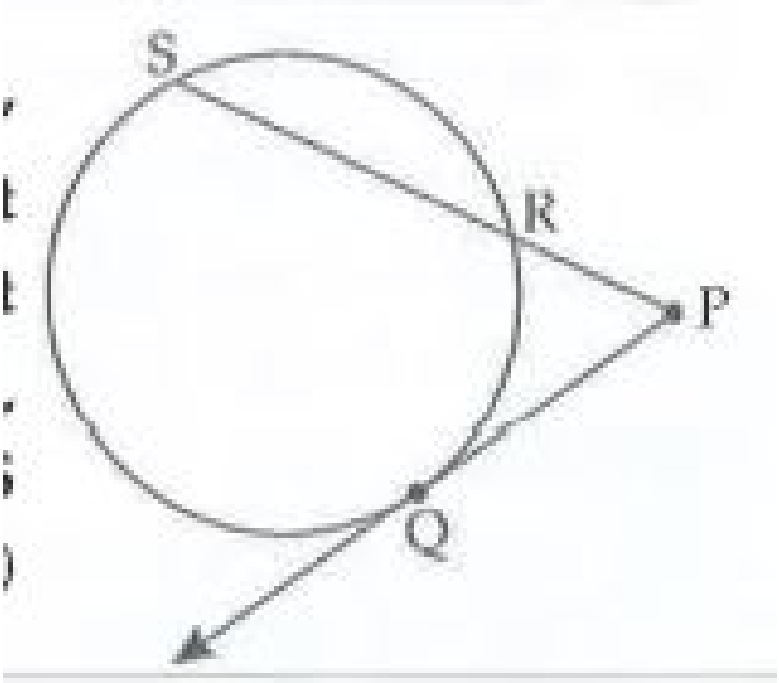
3. In the adjoining figure, point Q is the point of contact of tangent and the circle. If PQ=12, PR=8, then find PS and RS.



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Multiple Choice Question

1. Concentric Circles have the same_____.

A. (a) Diameter

B. (b) Radius

C. (c) Centre

D. (d) Chord

Answer: C

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2. A tangent at any point of a circle is perpendicular to the

radius through the _____.

A. (a) Chord

B. (b) Diameter

C. (c) Point of contact

D. (d) All of the above

Answer: C

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3. The maximum number of tangents that can be drawn to a circle from a point outside it is.....a)2 b)1 c) one and only one d)0

A. 0

B. 1

C. 2

D. 3

Answer: C

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4. The number of tangents that can be drawn to a circle at a point on the circle is.....a)3 b)2 c)1 d)0

A. 0

B. 1

C. 2

D. 3

Answer: B

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5. If two circles are touching externally,how many common tangents of them can be drawn?

A. 0

B. 1

C. 2

D. 3

Answer: B

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6. Tangents drawn at the endpoints of a diameter of a circle are.....a)Equal b)Perpendicular c)Parallel d)Intersecting each other

A. coincident

B. parallel

C. intersecting

D. perpendicular

Answer: B

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7. The number of parallel tangents atmost a circle can have on

a diameter is

A. (a) 1

B. (b) 2

C. (c) 0

D. (d) 3

Answer: B

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8. Angles inscribed in the same arc are

A. (a) congruent

B. (b) complementary

C. (c) supplementary

D. (d) none of these

Answer: A

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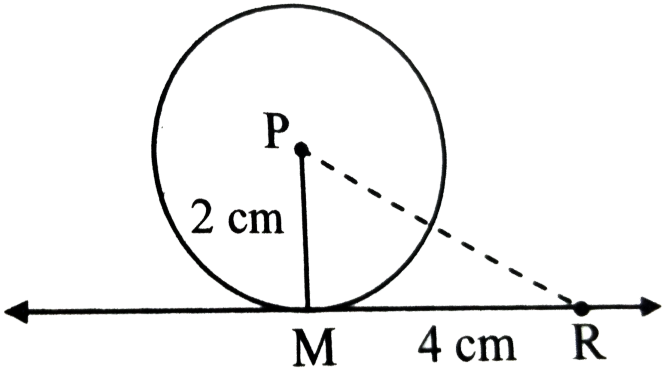
9.



For the above figure l(PR)=

A. (a) 20 cm

B. (b) $\sqrt{20}$cm

C. (c) 10 cm

D. (d) $\sqrt{10}$cm

Answer: B

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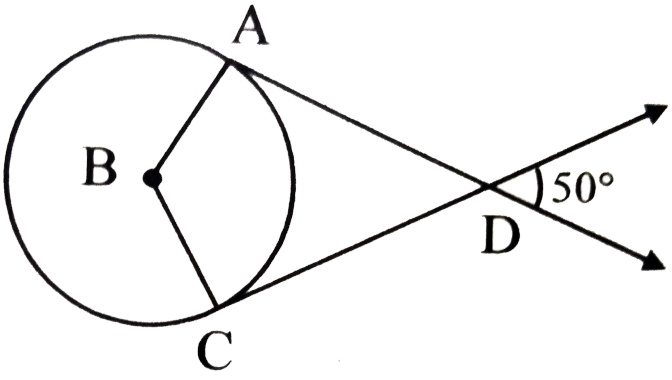
10.



In the above figure, if lines AD and CD are tangents, then $m\angle B$=_____

A. (a) 40°

B. (b) 130°

C. (c) 50°

D. (d) 220°

Answer: B

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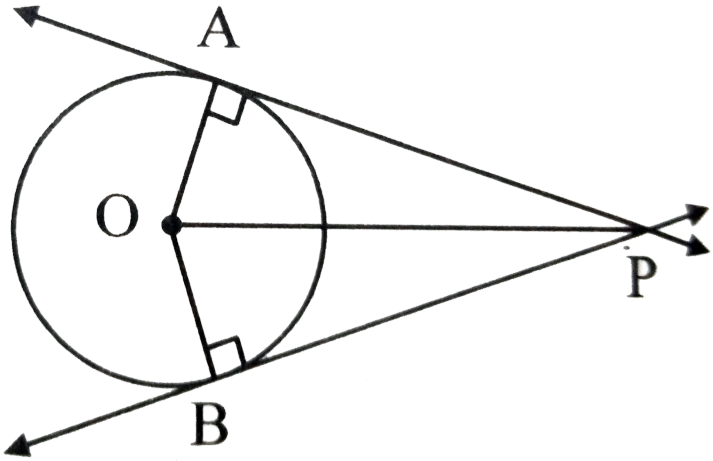
11. For the figure given below, which of the following options is correct?



A. (a) $AP = BP$

B. (b) $\angle APO = \angle BPO$

C. (c) $\angle AOP = \angle BOP$

D. (d) all of the above

Answer: D

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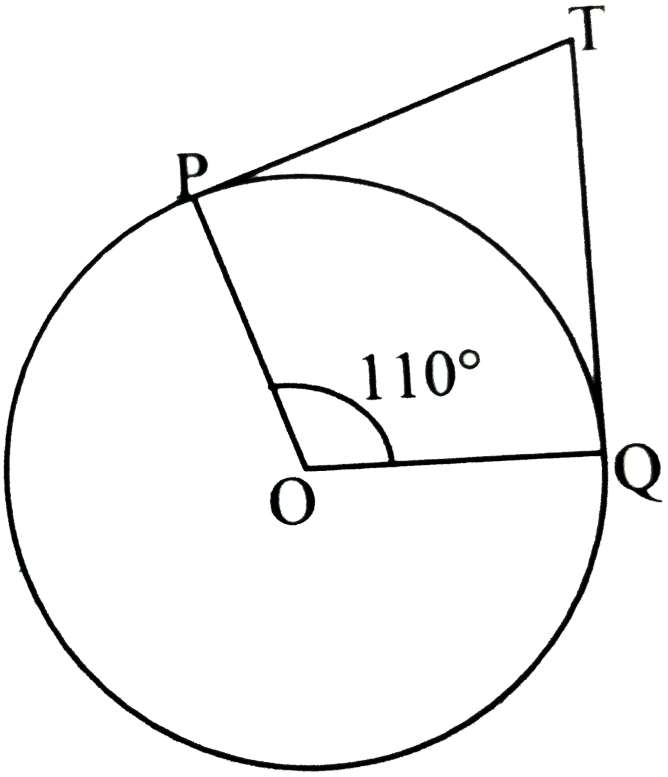
12. In the given figure , if TP and TQ are the two tangents to a circle with centre O so that $\angle POQ = 110^\circ$, then $\angle PTQ$ is equal to



A. (a) 60°

B. (b) 70°

C. (c) 80°

D. (d) 90°

Answer: B

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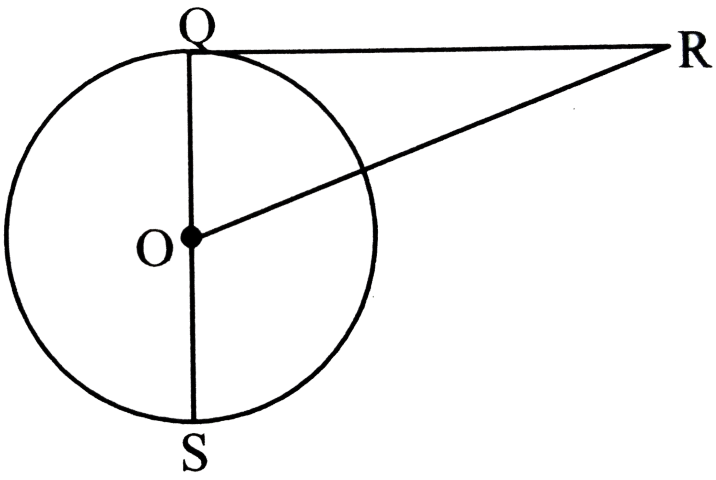
13. In the figure RQ is a tangent to the circle with centre O.

If $SQ = 6cm, QR = 4cm$, find OR.



A. (a) 4cm

B. (b) 5cm

C. (c) 6cm

D. (d) 3cm

Answer: B

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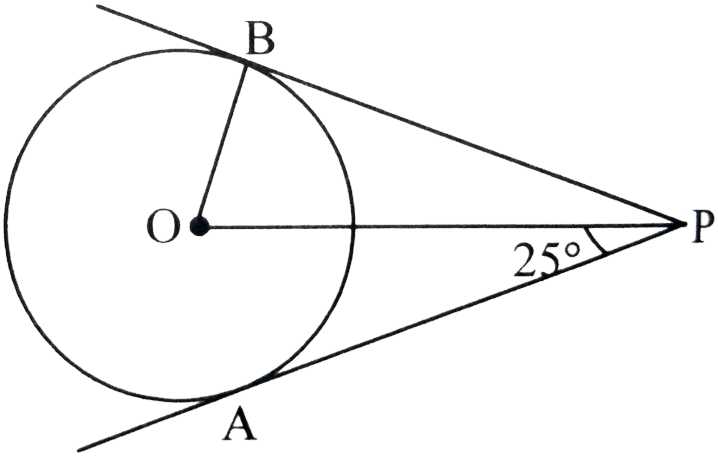
14. PA and PB are tangents to the circle with centre O touching it

at A and B respectively. IF $\angle APO = 25^\circ$, then $\angle POB$ is



A. (a) 65°

B. (b) 155°

C. (c) 130°

D. (d) 150°

Answer: A

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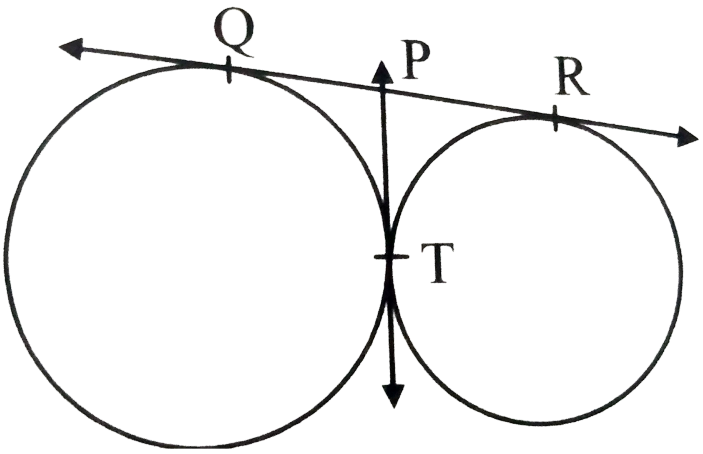
15. In figure, QR is a common tangent to the given circles, touching externally at the point T. The tangent at T meets QR at P.

If PT=3.8cm, then the length of QR(in cm) is



A. (a) 3.8

B. (b) 7.6

C. (c) 5.7

D. (d) 1.9

Answer: B

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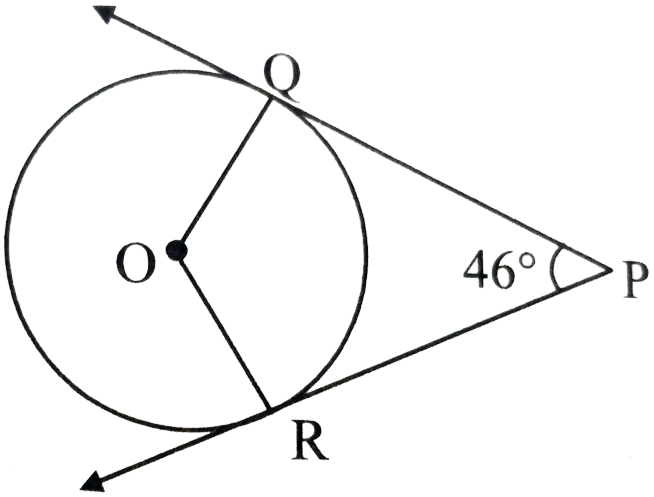
16. In figure, PQ and PR are two tangents to a circle with centre O.

IF $\angle QPR = 46^\circ$, then $\angle QOR$ equals

(a) 67°



A. (a) 67°

B. (b) 134°

C. (c) 44°

D. (d) 46°

Answer: B

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17. Two circles touch each other externally at P . AB is a common tangent to the circle touching them at $A$and

B.

The value of $\angle APB$ is

A. (a) 30°

B. (b) 45°

C. (c) 60°

D. (d) 90°

Answer: D

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18. Two circles of radii 5 cm and 3 cm touch externally. Find the distance between their centres.

A. 2cm

B. 4cm

C. 8cm

D. 16cm

Answer: C

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19. IF two circles of radii r_1 and r_2 $(r_2 > r_1)$ touch internally ,

then the distance between their centres will be

A. (a) $r_1 - r_2$

B. (b) $r_2 - r_1$

C. (c) $r_1^2 - r_2^2$

D. (d) $r_2^2 - r_1^2$

Answer: B

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20. The angle subtended by the diameter at any point on the circles is a/an_____angle.

A. (a) $acute$

B. (b) $obtuse$

C. (c) $right$

D. (d) reflex

Answer: C

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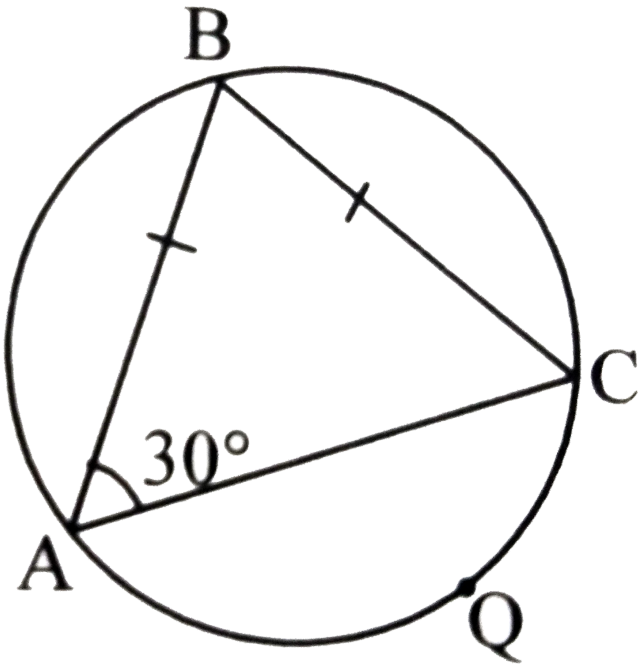
21. In the given figure , ΔABC is an isosceles triangle,

then m(arc AQC)=



A. (a) 240°

B. (b) 120°

C. (c) 60°

D. (d) 15°

Answer: A

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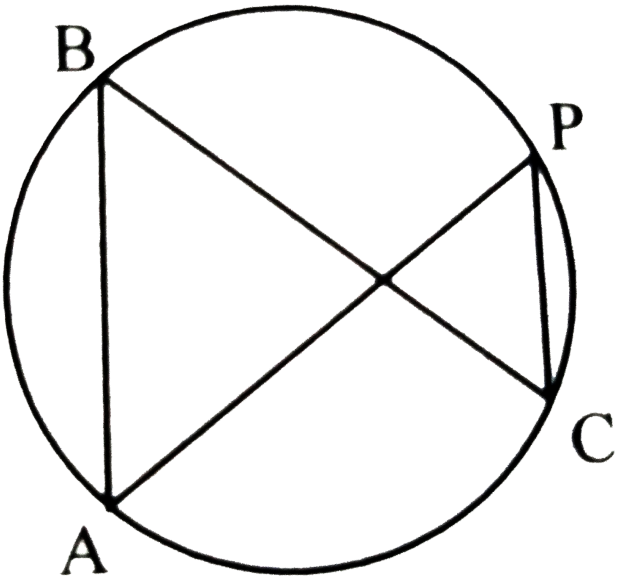
22. For the given figure, which of the following is true?



A. (a) $\angle ABC \cong \angle APC$

B. (b) $\angle ABC \cong \angle BCP$

C. (c) $\angle BAP \cong \angle APC$

D. (d) $\angle ABP \cong \angle ACP$

Answer: A

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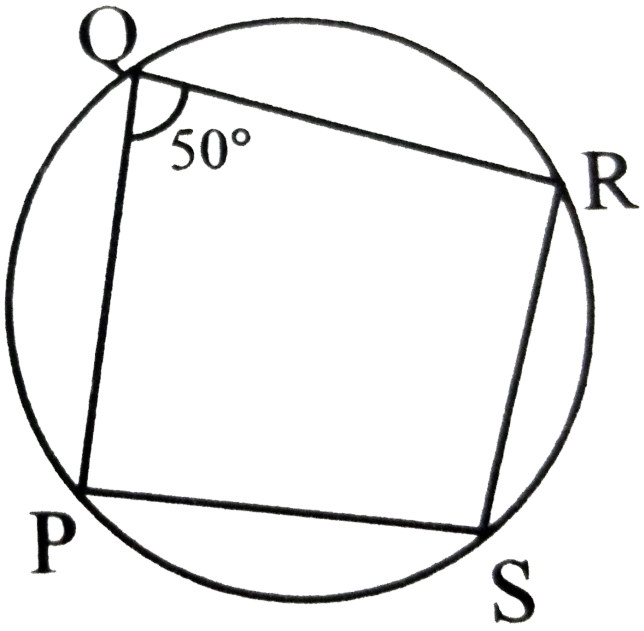
23. In the given figure, □ PQRS is a cyclic quadrilateral

such that $\angle PQR = 50^\circ$ then $\angle PSR$=

(a) 50° (b) 100° (c) 120° (d) 130°



A. (a) 50°

B. (b) 100°

C. (c) 120°

D. (d) 130°

Answer: D

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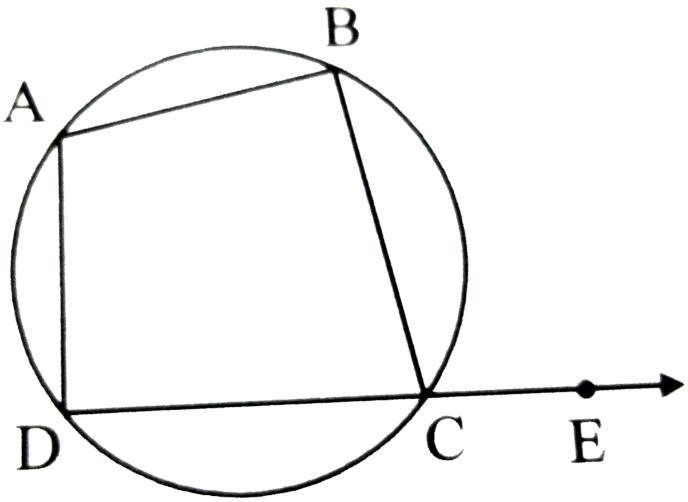
24. For the cyclic quadrilateral shown below, which of the

following is always true?



A. $\angle BCE = \angle BAD$

B. $\angle BCE = \angle BCD$

C. $\angle BAD = \angle BCD$

D. $\angle ABC = \angle ADC$

Answer: A

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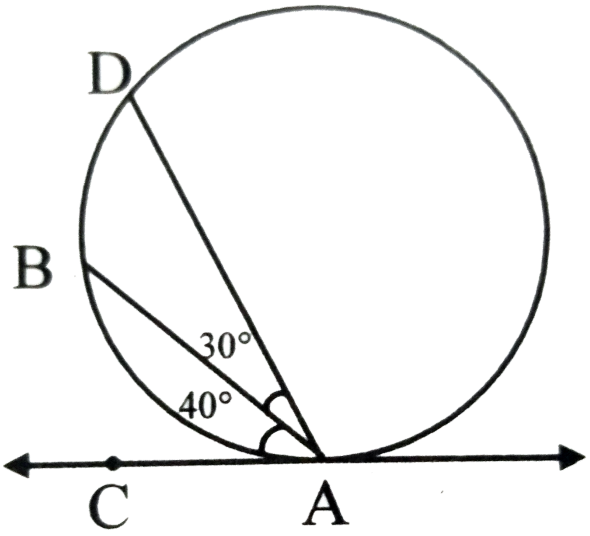
25. For the figure given below, m(arc ABD)=



A. 70°

B. 140°

C. 110°

D. 80°

Answer: B

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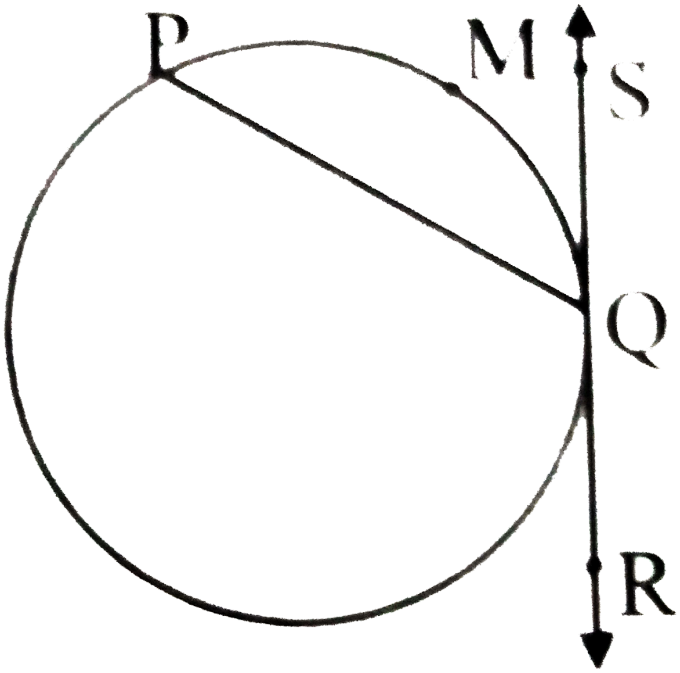
26. In the following figure , m(arc PMQ)=110°,

then $\angle PQS$=



A. (a) 50°

B. (b)55°

C. (c) 110°

D. (d) 220°

Answer: B

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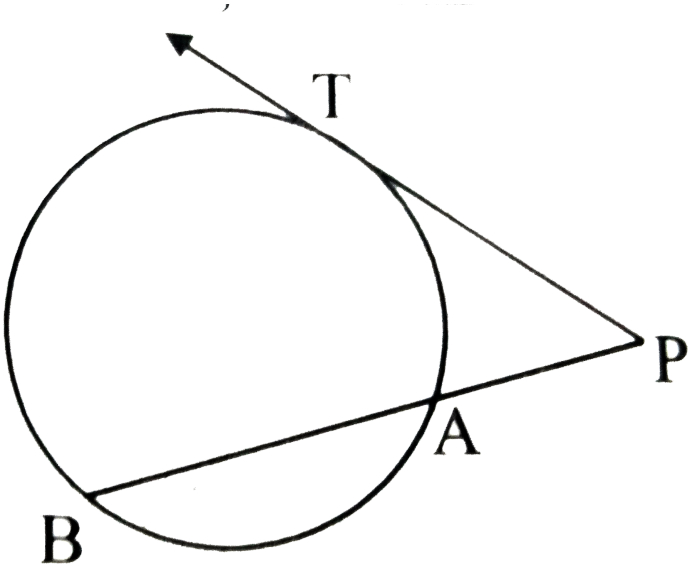
27. A tangent segment PT touching a circle in T

and

a secant PAB are as shown in the figure below.

IF TP=12 and PA=4, then AB=

(a) 36 units (b) 32 units (c) 3 units (d) 40 units



A. (a) 36 units

B. (b) 32 units

C. (c) 3 units

D. (d) 40 units

Answer: B

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Additional Problems For Practice

1. Find the length of the tangent segment from a point which

is at a distance of 5 cm from the centre of the circle of

radius 3cm.

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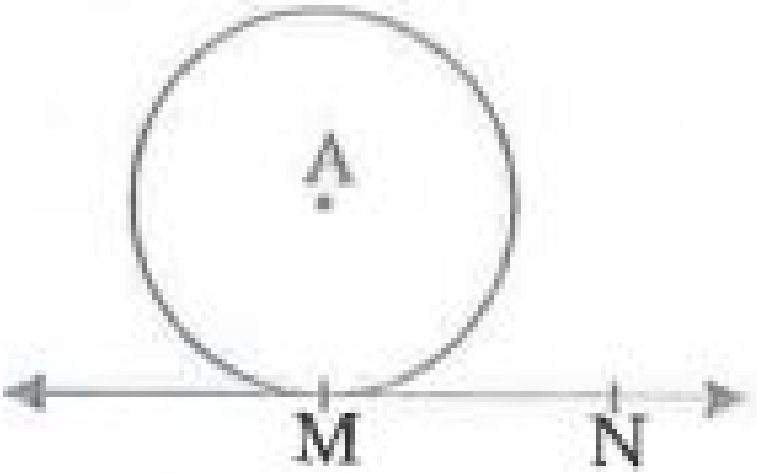
2. In the adjoining figure, point A is the center of the circle. AN=10 cm. Line NM is tangent at M. MN=5 cm. Find the radius.



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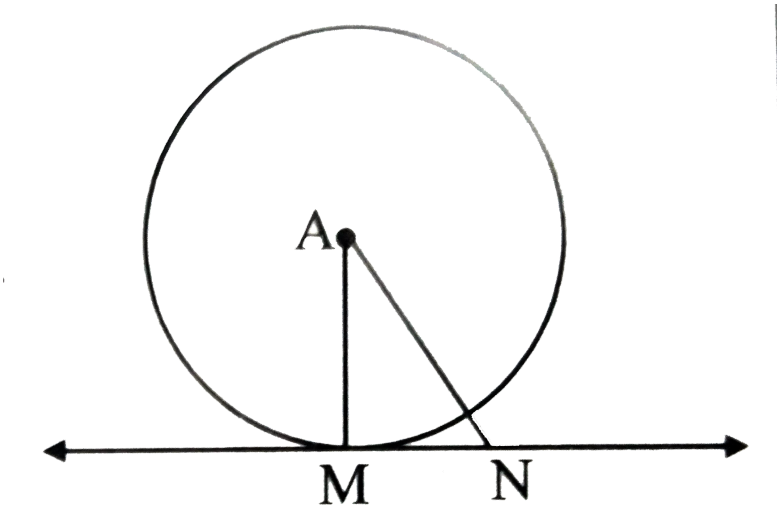
3. In the following figure ,Point A is the centre of the circle.

Line MN is tangent at point M. IF AN=12cm and MN=6cm,

determine the radius of the circle.



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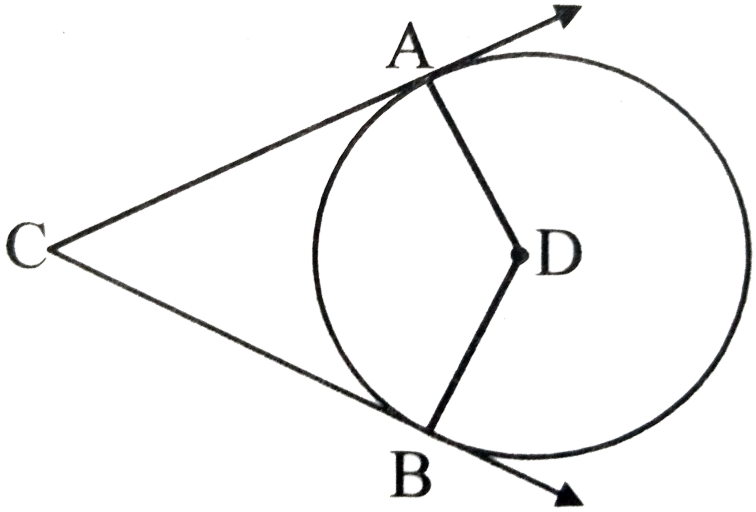
4. In the given figure circle with centre D touches the sides

of $\angle ACB$ at A and B. If $\angle ACB = 52^\circ$,

find measure of $\angle ADB$.



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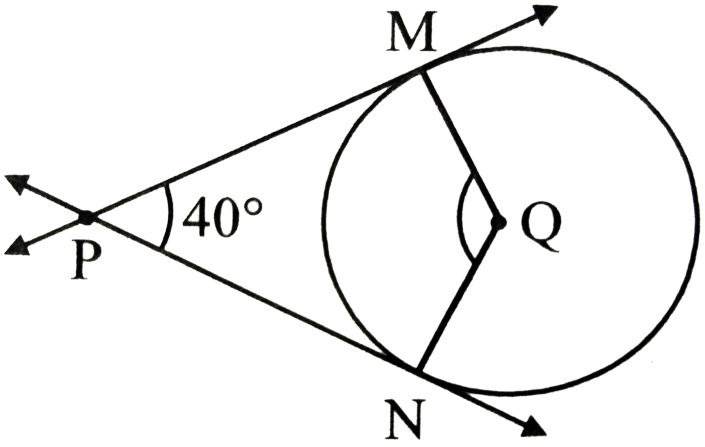
5. In the adjoining figure , Q is the centre of the circle and

PM, PN are tangent segments to the circle.

IF $\angle MPN = 40^\circ$, find $\angle MQN$.



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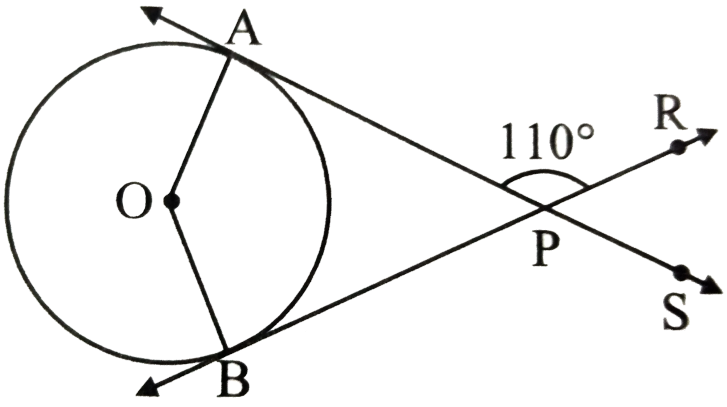
6. Find the angle between two radii at the centre of the circle

as shown in the figure. Lines PA and PB are tangents to the

circle at other ends of the radii and $\angle APR = 110^\circ$



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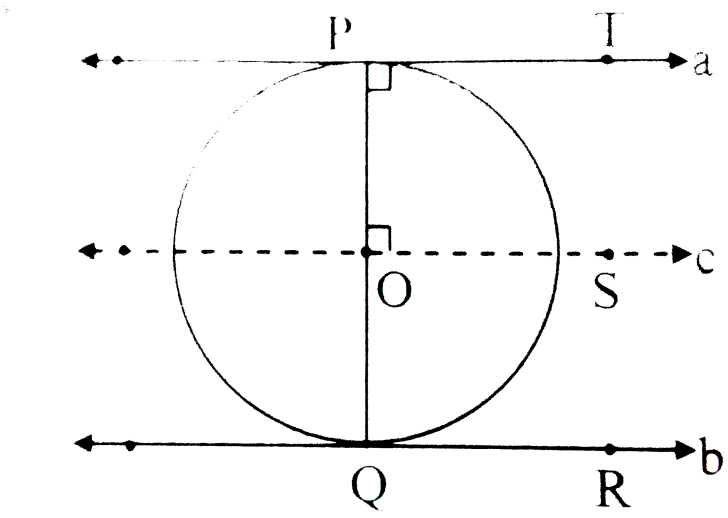
7. Point O is the centre of a circle . Line a and line b are

parallel tangents to the circle at P and Q. Prove that

segment PQ is a diameter of the circle.



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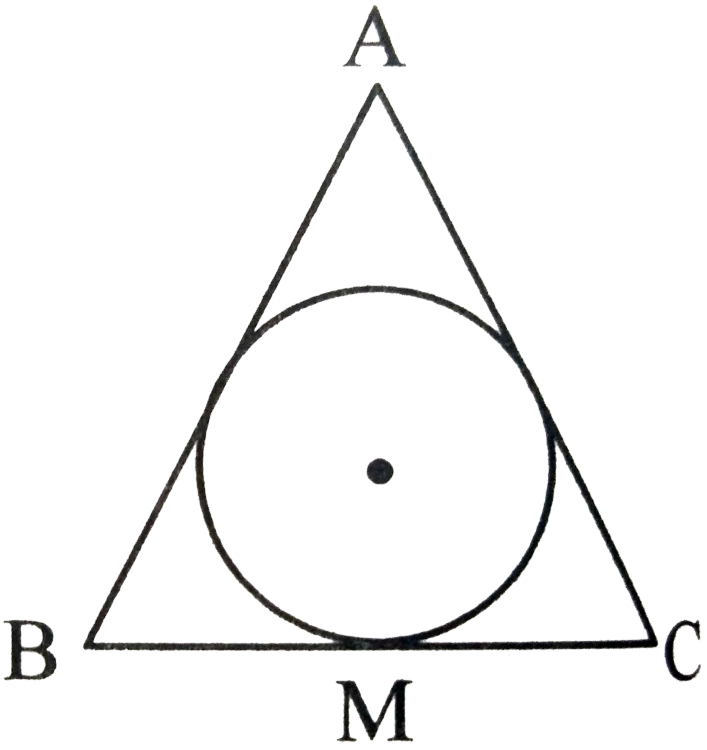
8. In the adjoining figure, the circle is the incircle of

isosceles ΔABC, where seg AB $=$ seg AC.

Prove that M bisects BC.



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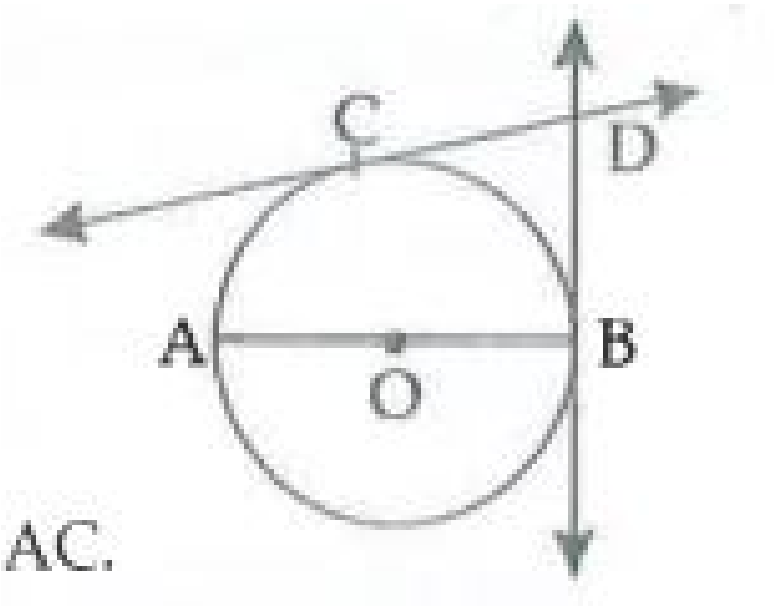
9. In the adjoining figure, O is the centre and seg AB is a diameter. At point C on the circle, the tangent CD is drawn. Line BD is tangent at B. Prove that $segOD \mid\mid segAC$



AC.

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10. If two circles with radii 8 and 3 respectively touch

externally, then find the distance between their centres.

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11. A circle of radius 2 cm touches a circle of radius 10cm

internally. Determine the length of a tangent segment

drawn through the cente of the larger circle to the smaller

circle.

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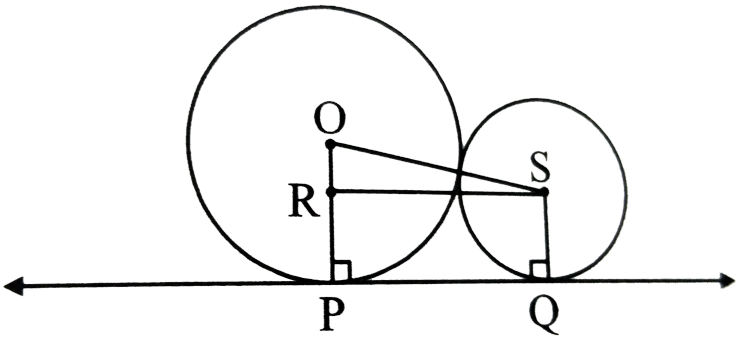
12. In the adjoining figure , line PQ is a common tangent to

the externally touching circles and the radii of two circles

are 25cm and 9cm. Find the length of the common tangent

segment of these circles.



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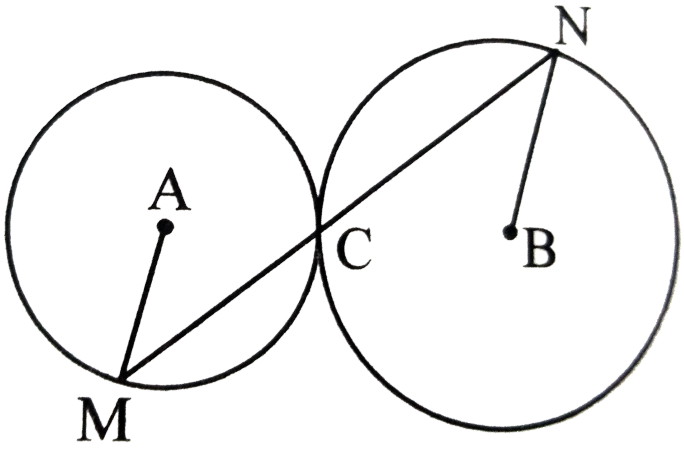
13. As shown in the adjoining figure , two circles centred

at A and B are touching at C. Line passing through C

intersects the two circles at M and N

respectively.

Show that seg AM ||seg BN.



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14. In the adjoining figure, points A, B,C and D are on

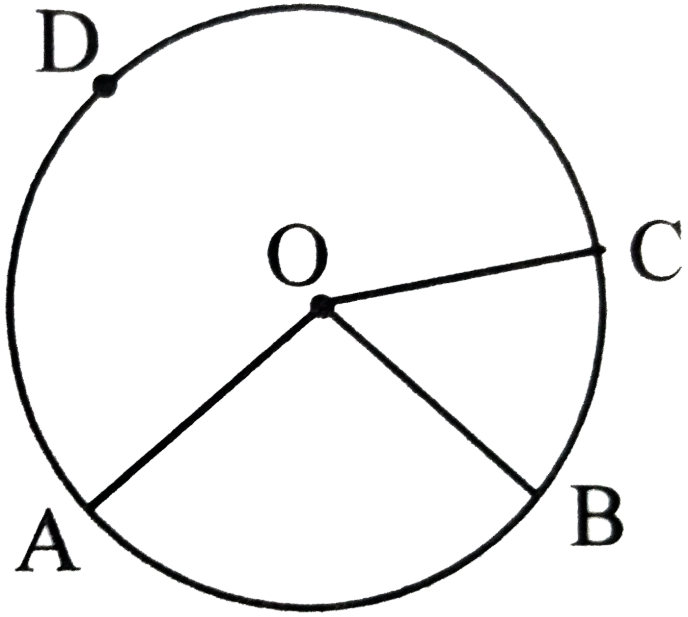
the circle. The measures of $\angle AOB$ and $\angle BOC$

are 80°

and 75° respectively. Find measure of arc ABC,

arc ADB

and arc BAC.



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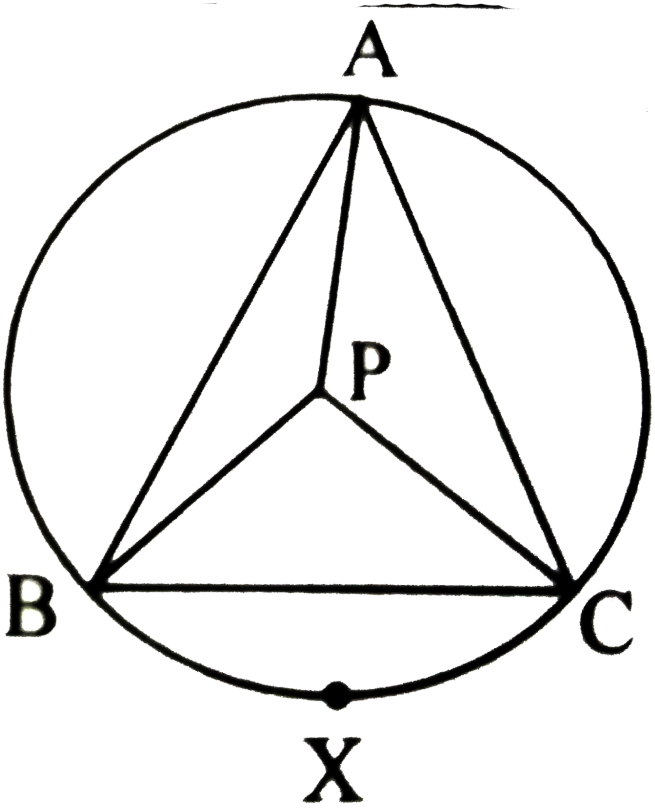
15. In the adjoining figure, P is the circumcentre of the $\Delta ABC. m\angle APC = 118^\circ$ and $m\angle PBC = 45^\circ$,

then find:

(i) m(arc BXC)

(ii) m(arc BCA)



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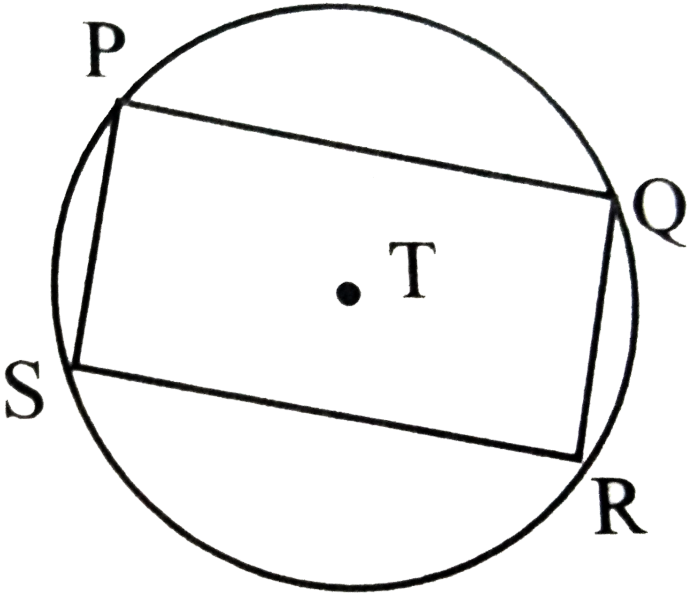
16. In the adjoining figure, a rectangle PQRS is inscribed in

a circle with centre T. Prove that ,

(i) arc PQ $\cong$ arc SR

(ii) arc SPQ $\cong$ arc PQR



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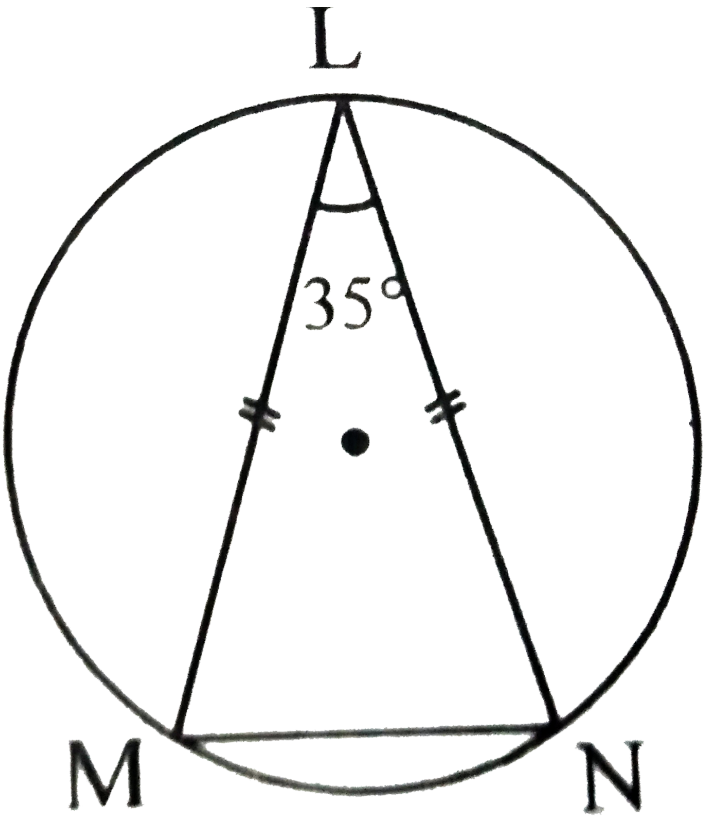
17. In the adjoining figure, chord LM $\cong$ chord LN, $\angle L = 35^\circ$

find:

(i) m(arc MN)

(ii) m (arc LN)



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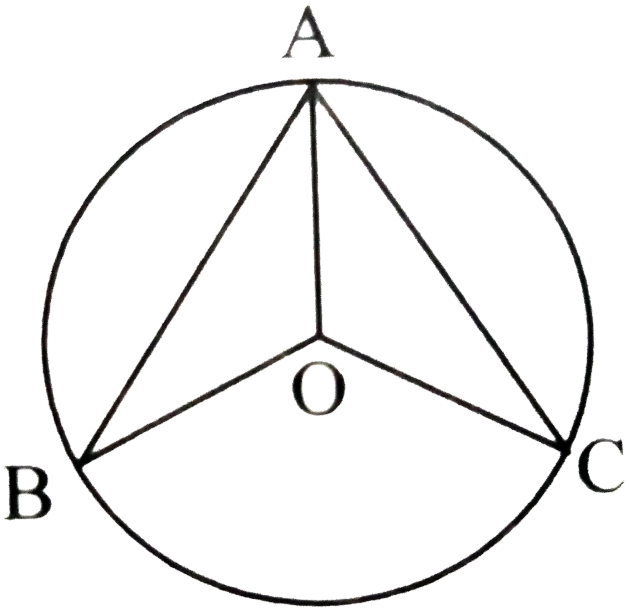
18. In the adjoining figure, A,B and C are three points on a circle with centre O such that $m\angle AOB = 110^\circ$, $m\angle AOC = 120^\circ$. Find $m\angle BAC$.



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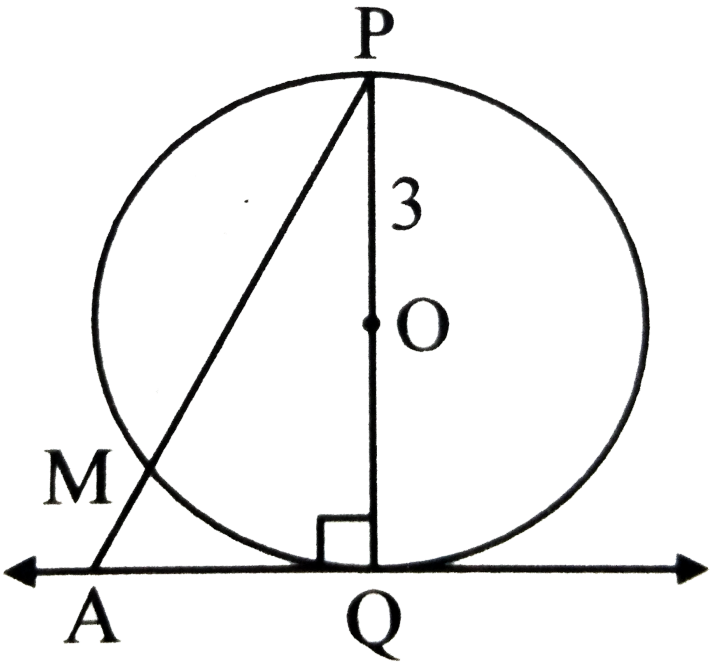
19. In the adjoining figure, O is the centre, seg PQ is diameter,

line AQ is a tangent. If OP=3 and m(arc PM)= 120°,

determine AP.



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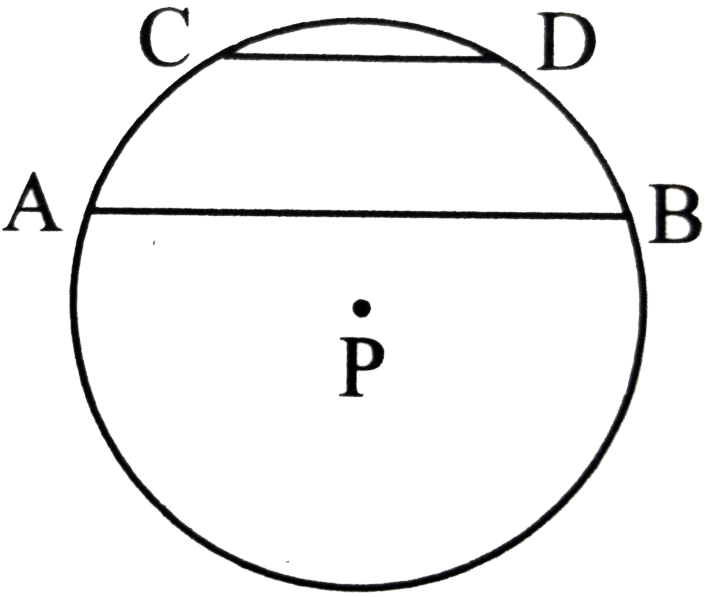
20. As shown in the adjoining figure, two chords AB and CD

of the same circle are parallel to each other.

P is the centre of the circle. Show that $\angle CPA = \angle DPB$.



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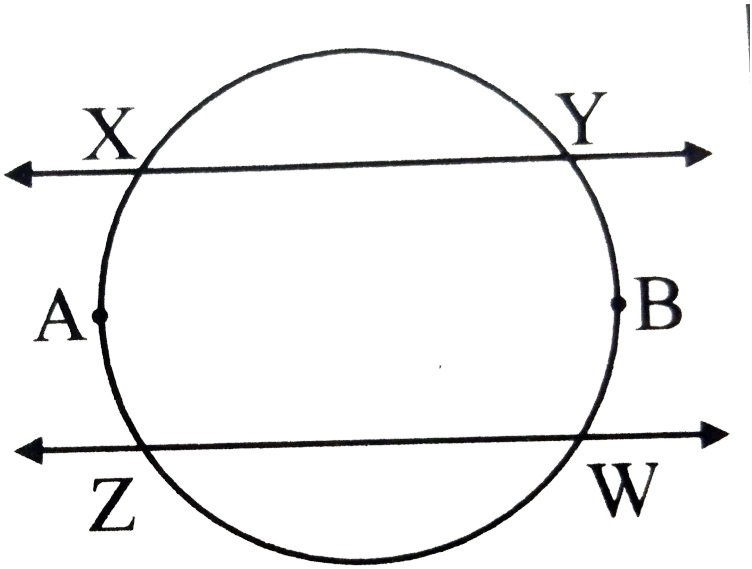
21. In the adjoining figure, m (arc XAZ)=m(arc YBW).

Prove that : XY||ZW



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22. In a cyclic quadrilateral ABCD, $\angle B = (5x + 40)^\circ$ and $\angle D = (8x + 23)^\circ$, then find the measures of $\angle B$ and $\angle D$.

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23. The quadrilateral formed by angle bisectors of a cyclic quadrilateral is also cyclic.

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24. Prove that in a cyclic trapezium, angles at the base are congruent.

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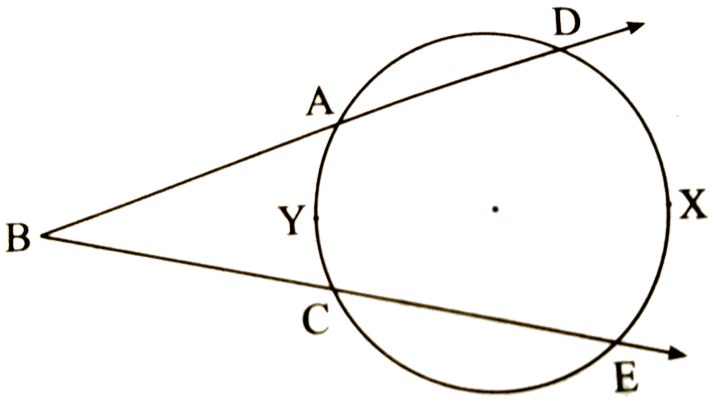
25. In the figure , if m (arc DXE =100° and m (arc AYC) $= 40^\circ$, find $\angle DBE$.



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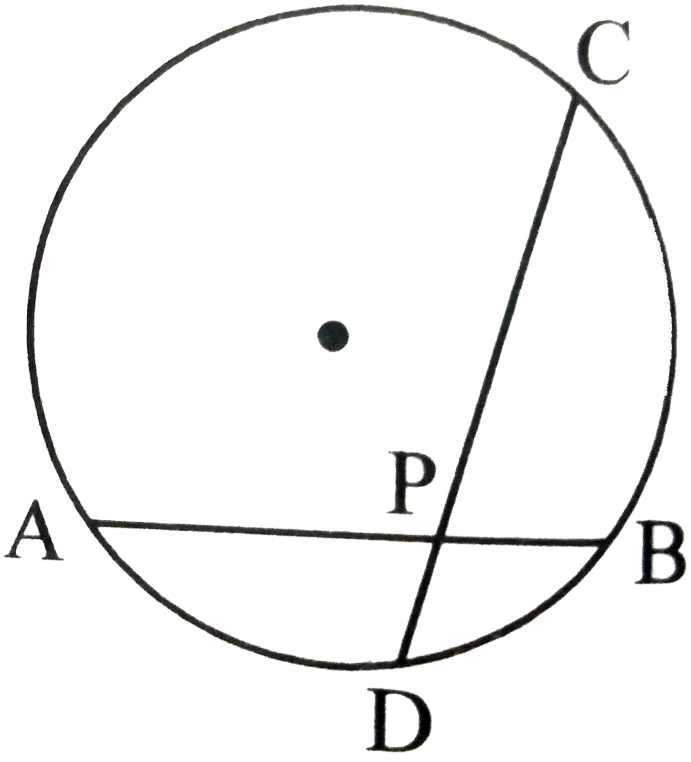
26. In the given figure PA=6, PB=4 and PC=8. Find PD.



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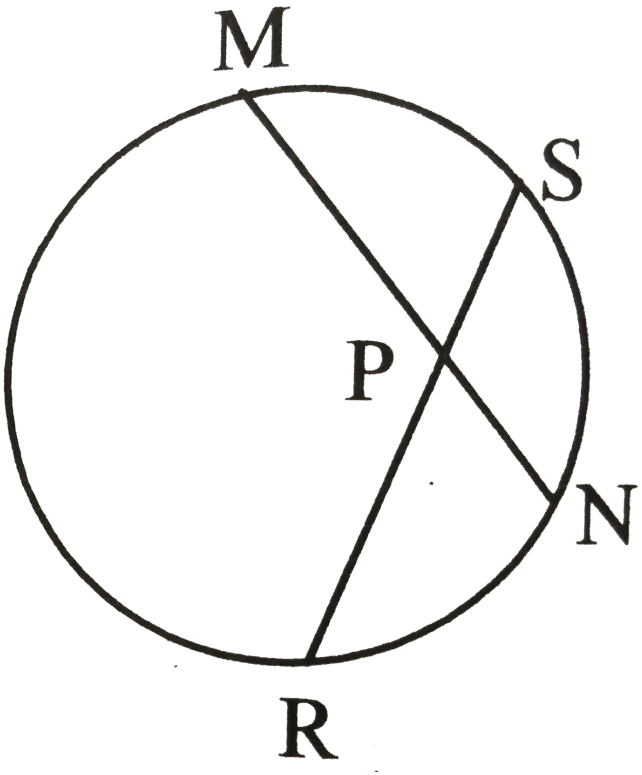
27. In the adjoining figure. Chord MN and chord RS intersect

each other at point P. If PR=6,Ps=4, MN=11, find PN.



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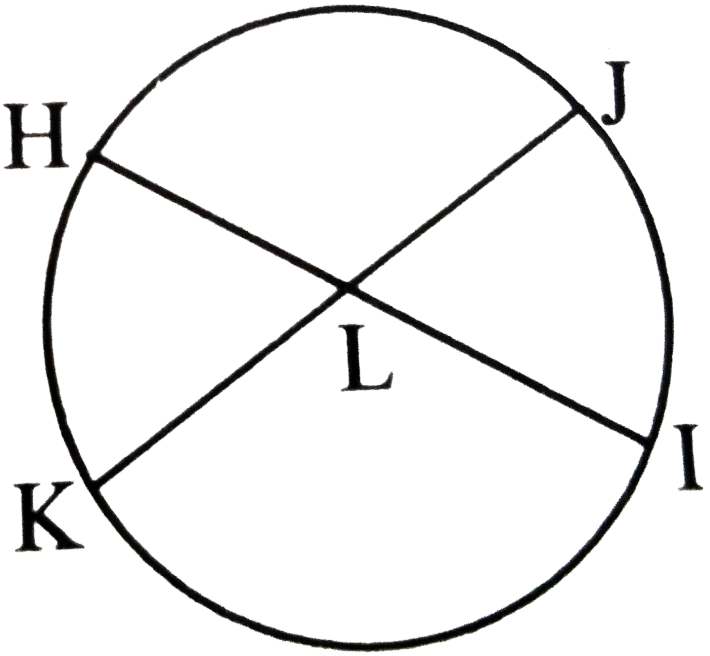
28. In the adjoining figure , chords HI and KJ intersect at

point L. If KL=8,LJ=5 and HI=14, then find the

length of HL.



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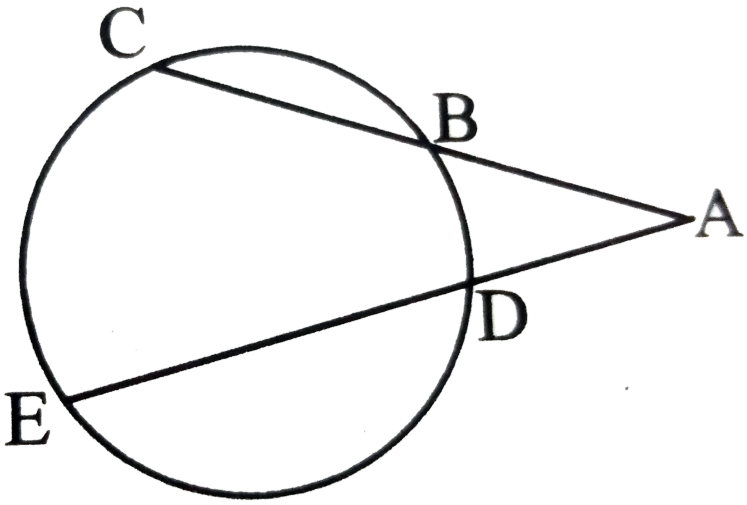
29. In the adjoining figure, chords CB and ED intersect each

other in point A in the exterior of the circle.

IF CB=5,AB=7,EA=20 and IF ED exceeds AD,

determine ED-AD.



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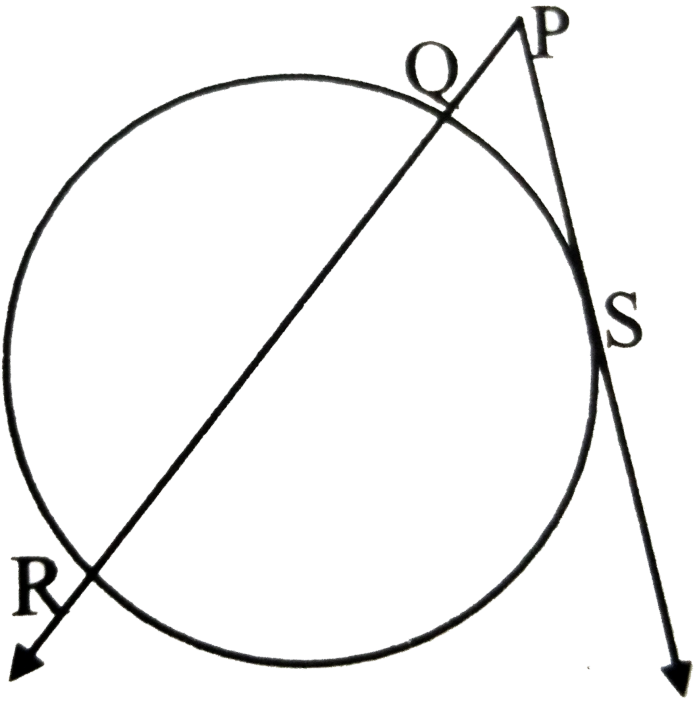
30. In the adjoining figure ,seg PS is a tangent segment.

Line PR is a secant. If PQ=3.6, and QR=6.4, find PS.



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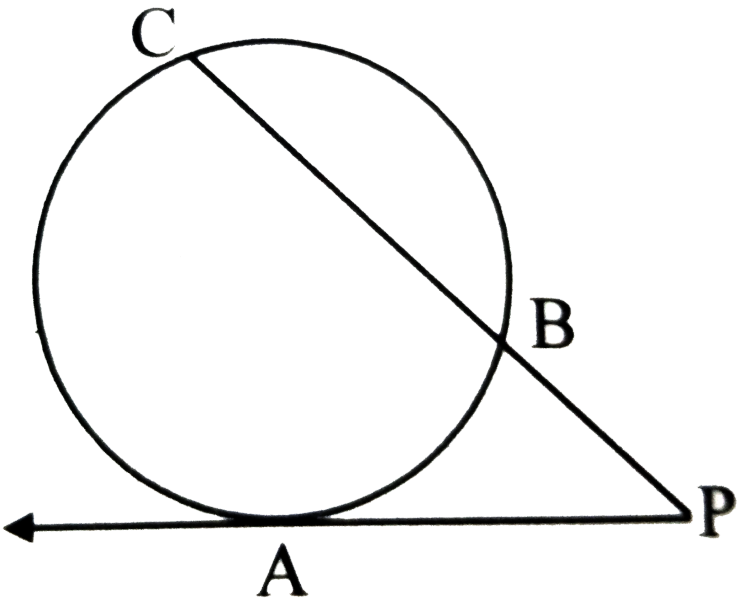
31. In the given figure, a tangent segment PA touching a circle

in A and a secant PBC are shown If AP=15 cm and

BP=10cm , find the Length of PC.



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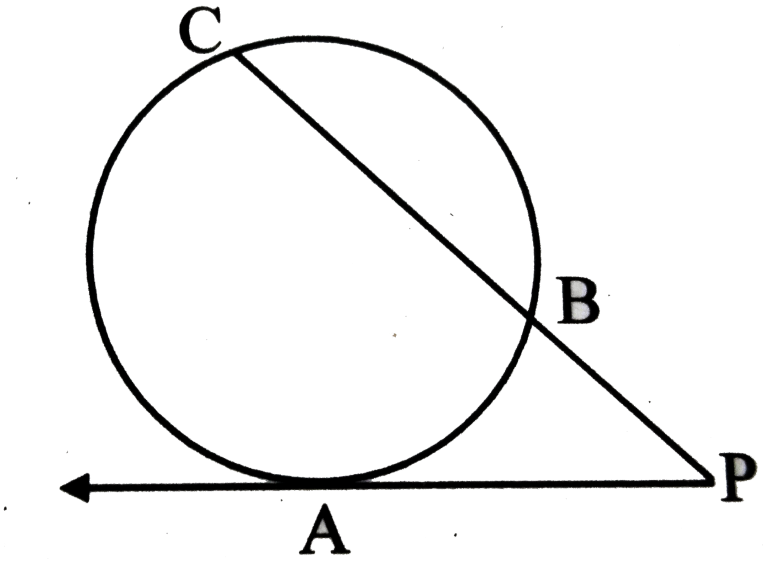
32. In the following figure , ray PA is the tangent to the circle

at point A and PBS is secant . If AP=14,BP=10, find BC.



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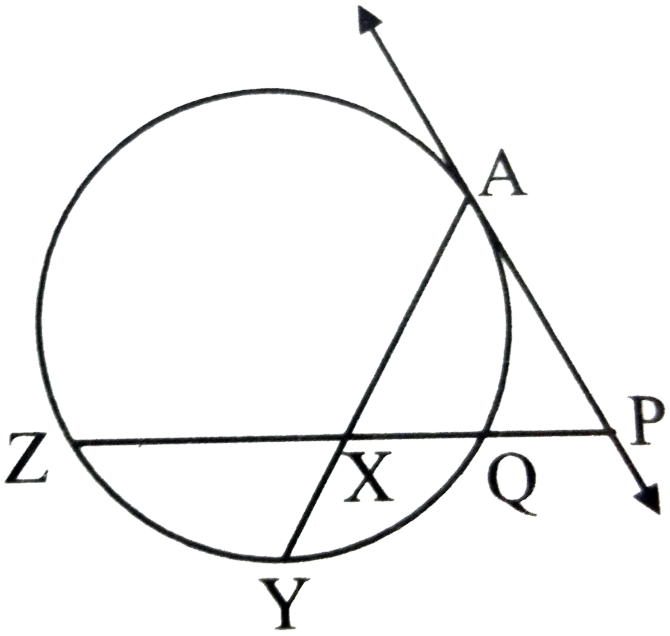
33. In the adjoining figure, line AP is tangent to the circle at A,

secant through P intersects chord AY in point X such that

AP=PX=XY.

IF PQ=1 and QZ=8, then find AX.



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Chapter Assessment

1. If two circles with diameter 8cm and 6 cm touch externally,

then the distance between their centres is _____.

A. (a) 2 cm

B. (b) 7 cm

C. (c) 10 cm

D. (d) 14 cm

Answer: B

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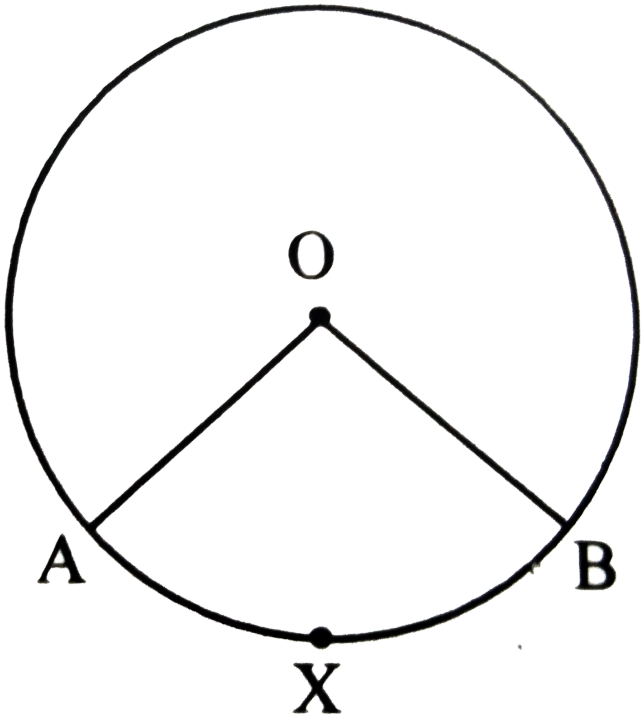
2. In the given figure , O is the centre of the circle. If m(arc AXB)=80° ,

then $m\angle AOB$=



A. (a) 40°

B. (b) 80°

C. (c) 160°

D. (d) 120°

Answer: B

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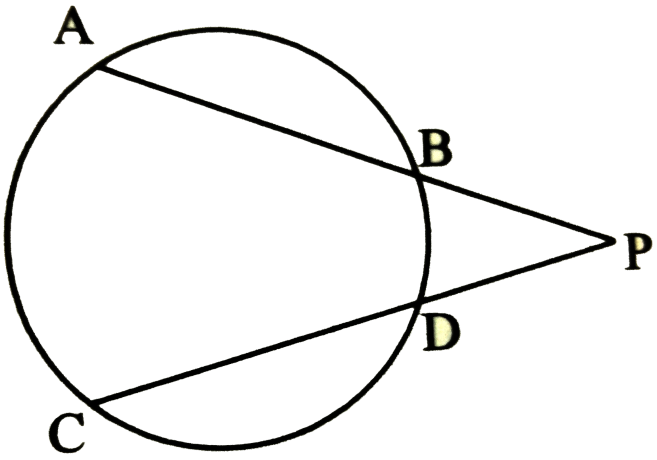
3. In the given figure ,secants AP and CP intersect in point P. If AP=12,PB=5,CP=20, then

DP=



A. (a) 8

B. (b) 6

C. (c) 4

D. (d) 3

Answer: D

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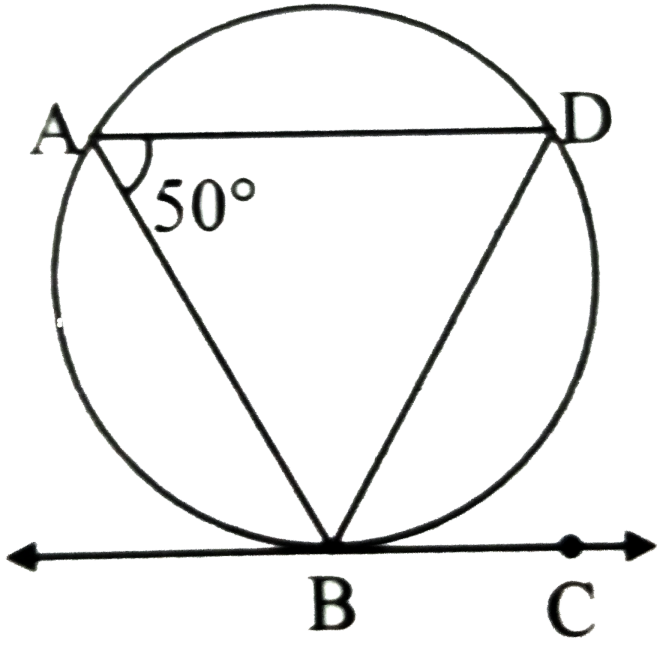
4. In the given figure , if line BC is tangent and $\angle BAD = 50^\circ$, then $m\angle DBC$=



A. (a) 25°

B. (b) 50°

C. (c) 100°

D. (d) 150°

Answer: B

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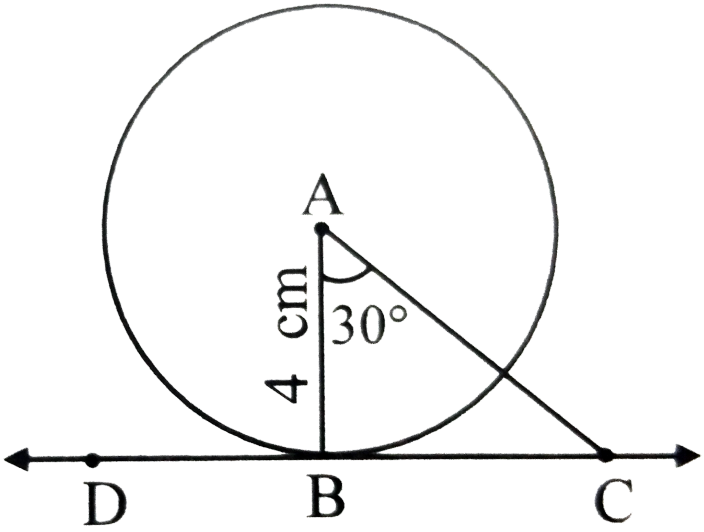
5. In the figure, point A is the centre of the circle and its tangent CD touches the circle at point B, The radius of the circle is 4cm .If

$m\angle BAC = 30^\circ$, then find AC



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6. Find the radius of the circle passing through the vertices of a right angled traingle the

lengths of whose perpendicular sides are 8 and 15.

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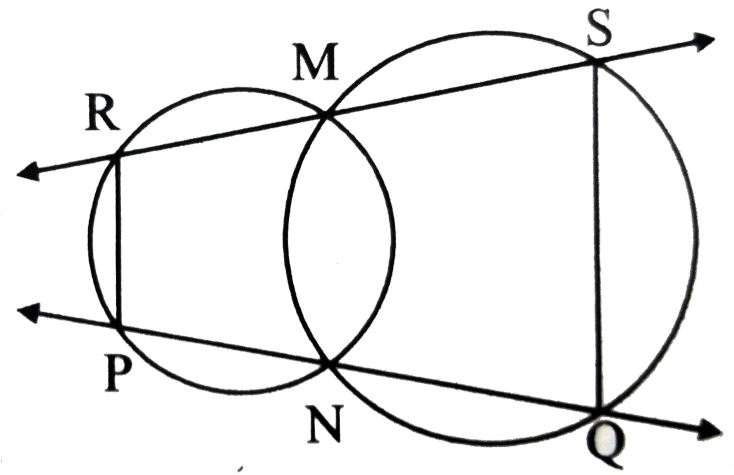
7. In the adjoining figure ,two circles intersect at points M and N.|

Secants drawn through M and N intersect the circles at points R,S

and P,Q respectively. Prove that: seg SQ||seg

RP.



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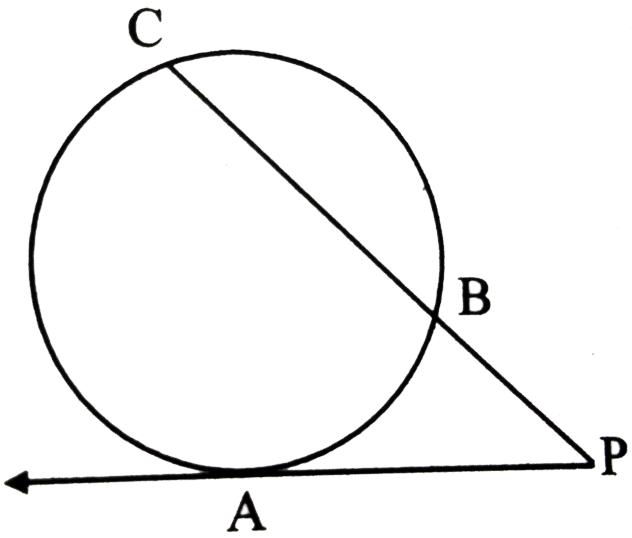
8. In the following figure, a tangent segment PA touching a circle

in A and a secant PBC are shown. If AP=12,BP=9,

find BC.



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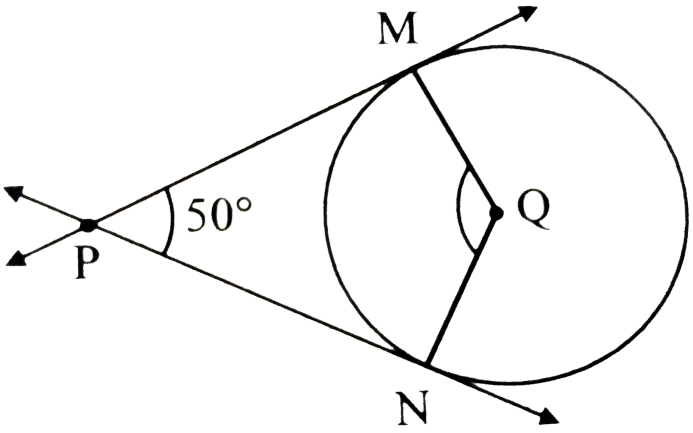
9. In the given figure, Q is the centre of the circle and PM ,PN are tangent segments to the circle. If

$\angle MPN = 50^\circ$ find $\angle MQN$.



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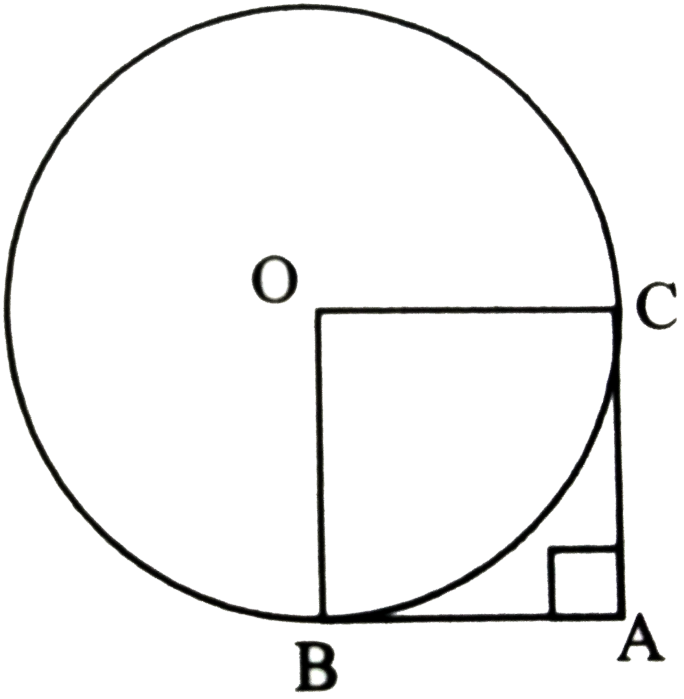
10. In the given figure , O is the centre of the circle. AB and AC are

tangents to the circle such that BA $\perp$ CA.

Prove that □ BACO is a square.



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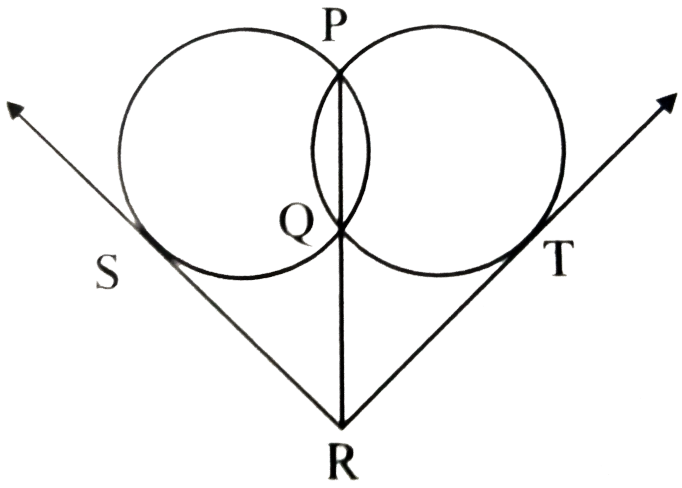
11. In the figure, two circles intersect each other in points P and Q. If tangent from point

R touch the circles at S and T, then prove that RS=RT.



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12. Prove that the opposite sides of a quadrilateral circumscribing a

circle subtend supplementary angles at the centres of the circle.

13. If two equal chords of a circle intersect within the circle, prove that

the segments of one chord are equal to corresponding segments

of the other chord.

14. Prove that, "If chords of congruent circles subtend equal angles at their centre, then the chords are equal."