doubtnut
India's Number 1 Education App

MATHS

BOOKS - BAL BHARTI

CIRCLE

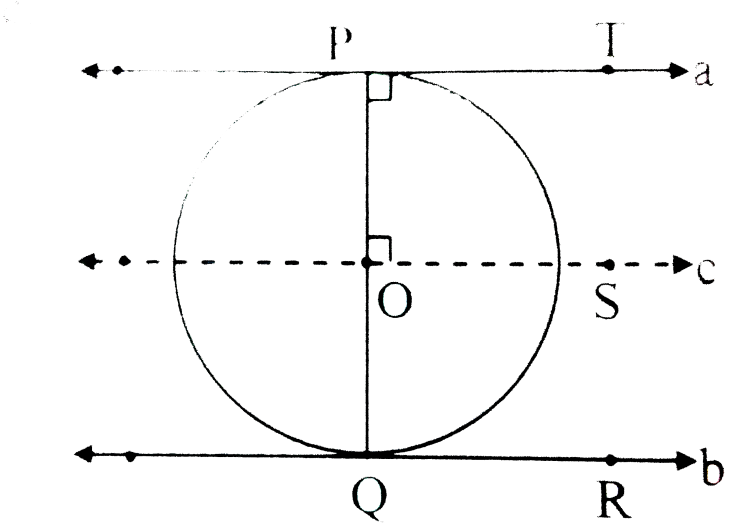
Example

1. 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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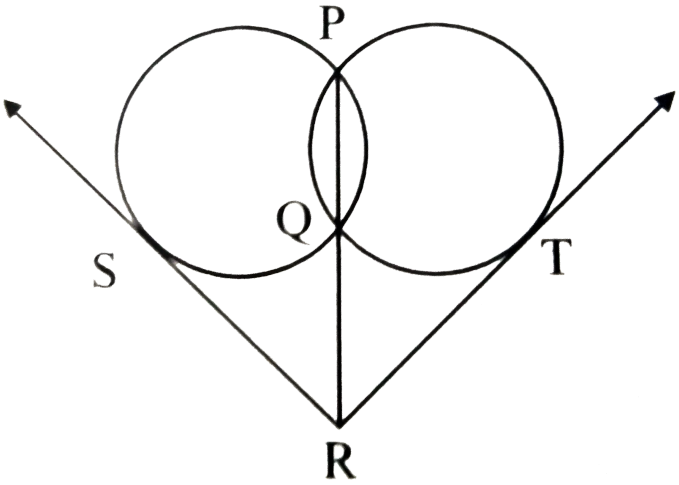
2. In the figure, two circles intersect each other in points P and Q. If tangent from point R

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



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Practice Set 3 1

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

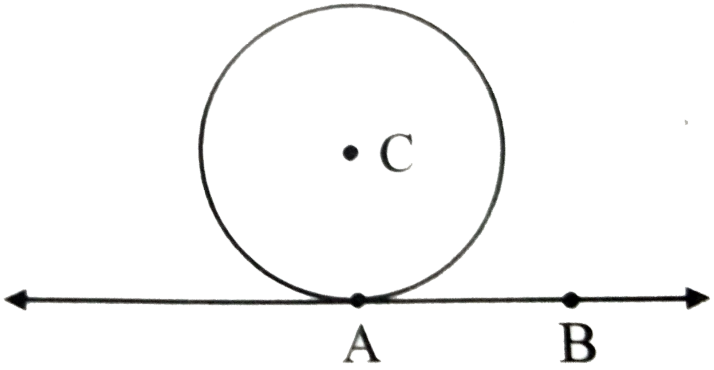
line AB is a tangent at A. Answer the following question

(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. What is the distance between two parallel tangents of a circle having radius 4.5 cm. Justify your answer.

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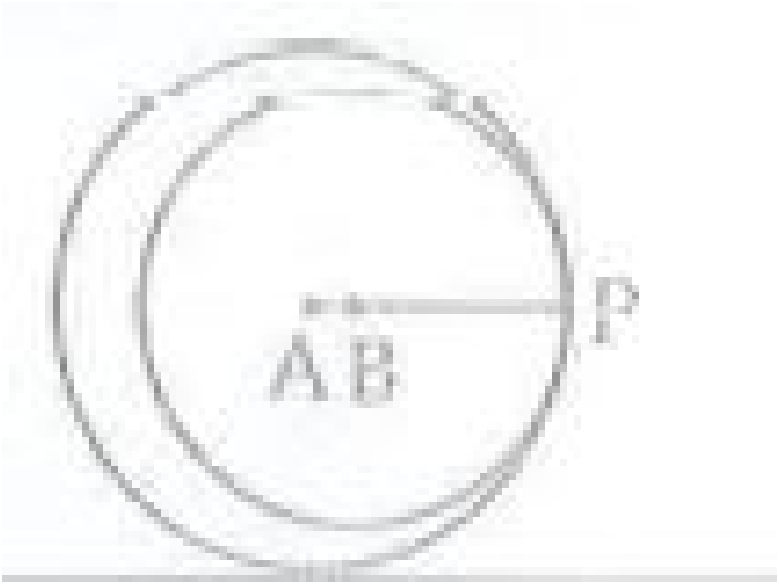
Practice Set 3 2

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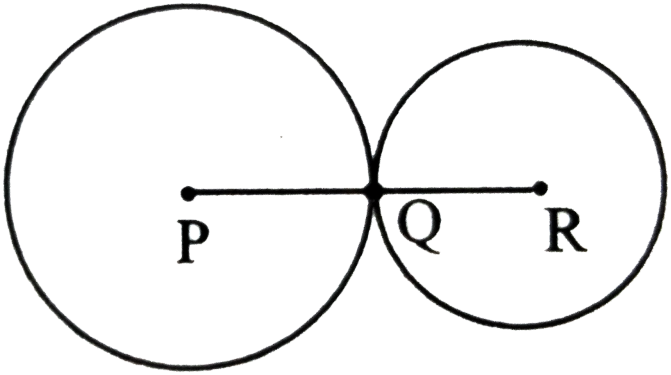
2. Two circles of radii 5.5cm and 4.2cm touch each other externally.

Find the distance between their centres.



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3. Two circles of radii 5.5 cm and 3.3 cm respectively touch each other.What is the

distance between their centres?

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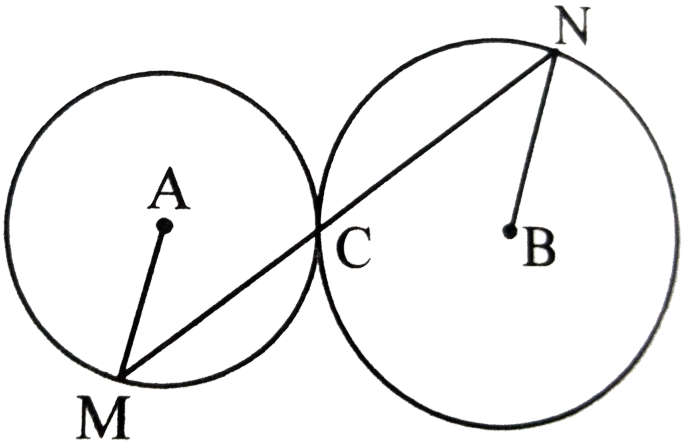
4. As shown in the adjoining figure , two circles centred

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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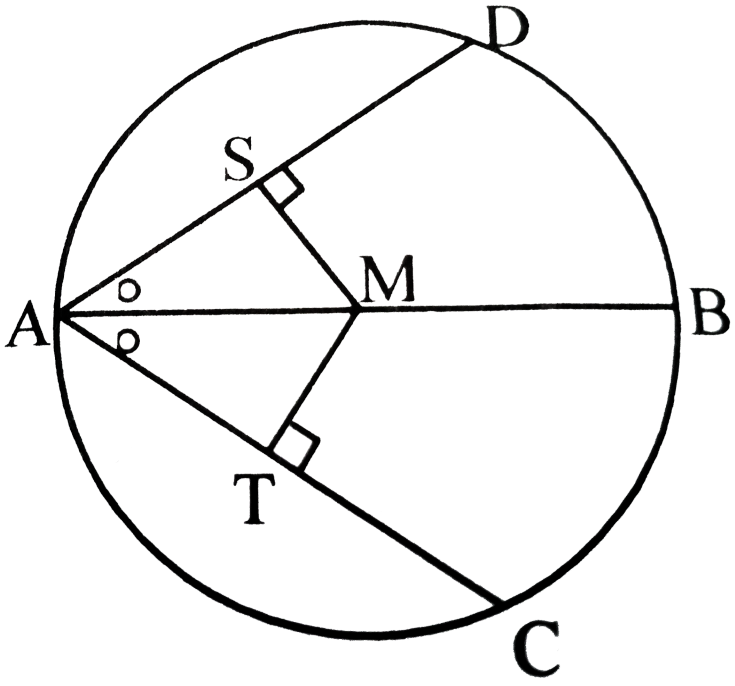
Practice Set 3 3

1. 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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Practice Set 3 4

1. The radius of a circle is 9cm. Find the length of an arc of the ciircle which cuts off a chord of length equal to radius.

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2. 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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3. Prove that any rectangle is a cyclic quadrilateral.

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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. 4.4 cm

B. 8.8 cm

C. 2.2 cm

D. 8.8 or 2.2 cm

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. 6 cm

B. 12 cm

C. 24 cm

D. con'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. 25 cm

B. 24 cm

C. 7 cm

D. 14 cm

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: B

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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 triangle

B. Scalene triangle

C. Right angled triangle

D. Isosceles triangle

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. Only one

B. Only two

C. Only three

D. All

Answer: C

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11. 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?

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

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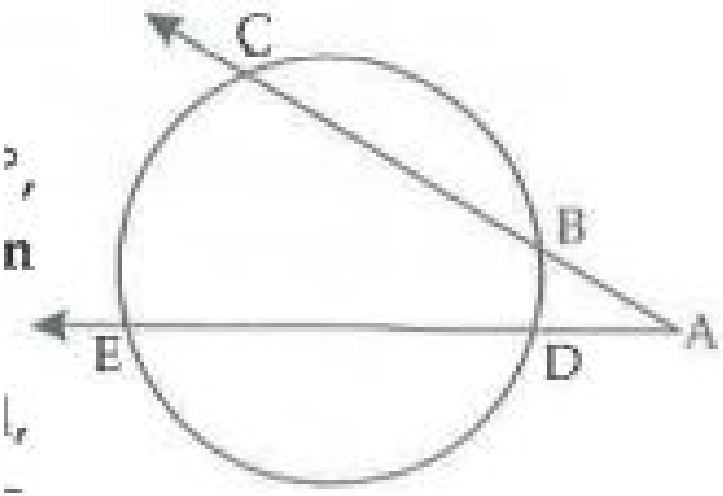
13. In the adjoining figure, If AB=4.2, BC=5.4, AE=12, then find AD.



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