



MATHS

BOOKS - OSWAAL PUBLICATION

MATHS (KANNADA ENGLISH)

CONSTRUCTIONS

**Topic 1 Division Of A Line Segment In A Given
Ratio Short Answer Type Questions**

1. Draw a line segment of length 7 cm. Find a point P on it which divides it in ratio 3:5.



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Topic 2 Construction Short Answer Type Questions

1. Construct a pair of tangents to a circle of radius 5 cm which are include to each other at on angle of 90°



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2. Draw a circle of radius 4 cm and construct a pair of tangents such that the angle between them is 60° .



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Topic 3 Circle Chord Tangents And Their Properties Multiple Choice Questions

1. TA and TB are tangents to a circle from an external point T. If $\angle ATB = 60^\circ$, then the $\triangle TAB$ is :

- A. right angled triangle
- B. equilateral triangle
- C. obtuse angled triangle
- D. isosceles triangle

Answer: B



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2. The distance between the centres of two circles of radii 3.4 cm and 1.8 cm is 3.7 cm. Then the circles are :

A. externally touching circles

B. internally touching circles

C. intersecting circles

D. concentric circles.

Answer: C



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3. Two circles when touch externally, the number of transverse common tangents that can be drawn is :

A. 0

B. 1

C. 2

D. 3

Answer: B



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4. Radii of two circles are 5 cm and 3 cm respectively and the distance between their centres is 6 cm.

A. Touching externally

B. Intersecting circles

C. Touching internally

D. Concentric circles.

Answer: B



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5. For two concentric circles.

A. Direct common tangents can be drawn

B. Transverse common tangents can be drawn

C. Common tangents cannot be drawn

D. Both direct and transverse common tangents can be drawn.

Answer: C



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6. Two circles of radii 4 cm and 2 cm have their centres 7 cm apart. These circles.

A. Touch each other externally

B. Touch each other internally

C. Do not touch each other

D. Intersect each other.

Answer: C



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7. Angle in a semi-circle is :

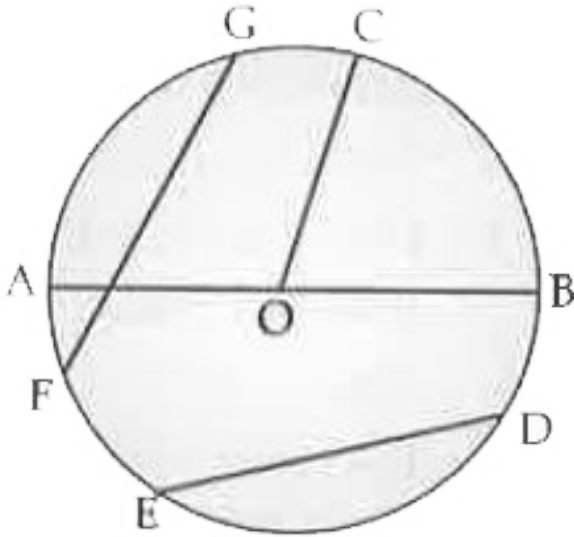
- A. Acute angle
- B. Straight angle
- C. Right angle
- D. Obtuse angle

Answer: C



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8. In the given figure, the line segment which subtends right angle in the semi-circle is :



A. AB

B. CO

C. DE

D. FG

Answer: C



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9. Two circles of radii 3 cm and 4.5 cm are drawn with their centres 5 cm apart. They are:

A. Concentric circles

B. Intersecting circles

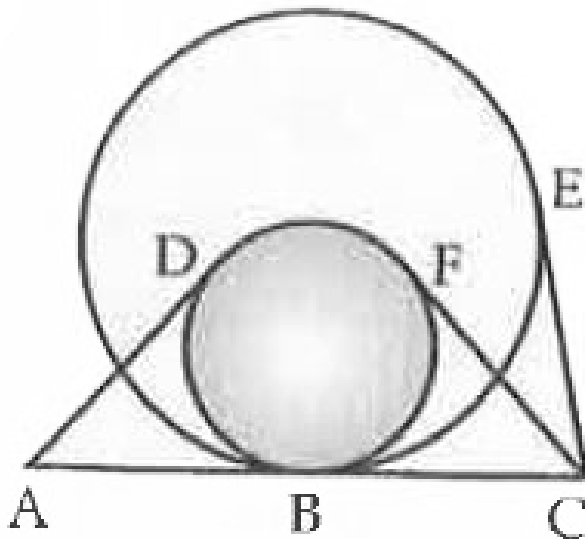
C. Congruent circles

D. Non-intersecting circle

Answer: B

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10. The common tangent in the figure is :



A. AC

B. AD

C. CE

D. CF

Answer: A



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11. The radii of two circles are R and r . The distance between their centres is d . If

$d = R + r$, then the number of transverse common tangents that can be drawn is :

A. 4

B. 1

C. 2

D. 3

Answer: B



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12. The line segment joining any two points on the circumference of circle is :

A. Radius

B. Circumference

C. Arc

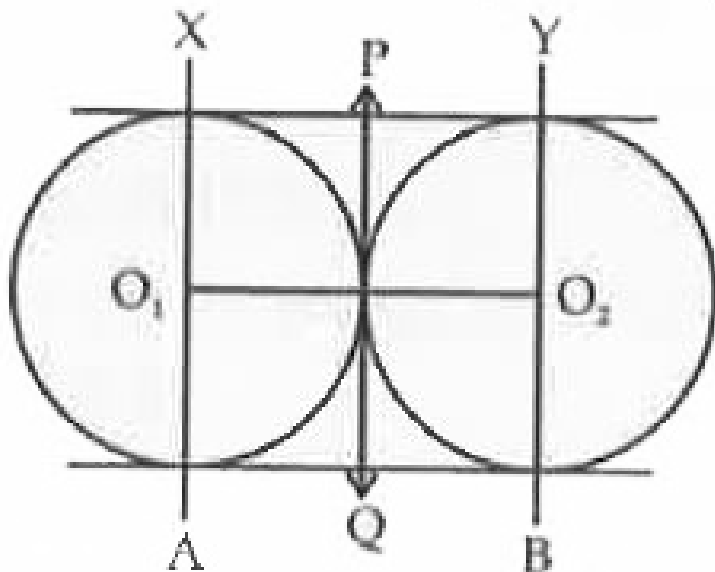
D. Chord

Answer: D



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13. In the given figure, the Transverse Common Tangent is :



A. XY

B. PQ

C. AB

D. O_1, O_2

Answer: C



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14. Two circles intersect each other. Then the total number of common tangents that can be drawn to them is :

A. 0

B. 1

C. 2

D. 3

Answer: C

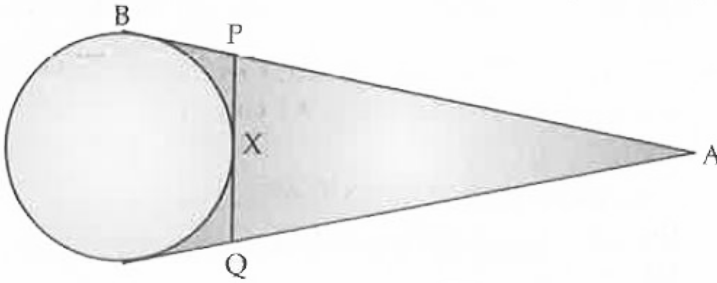


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Topic 3 Circle Chord Tangents And Their Properties Very Short Answer Type Questions

1. In the adjoining figure the perimeter of ΔPQA is 20cm then calculate the measure of

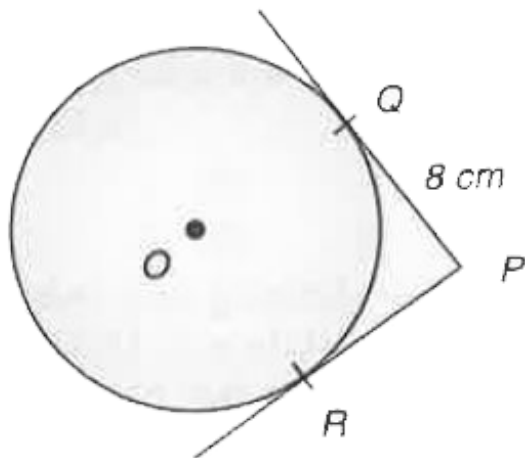
$(AB + AC)?$



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2. PQ and PR are tangents to the given circle as shown in the figure. If $\angle RPQ = 90^\circ$ and

$PQ = 8\text{ cm}$, find the radius of the circle.



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3. Write the name of biggest chord of a circle.

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4. Find the maximum number of tangents that can be drawn from an external point of a circle.



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5. Name the circles having the same centre and different radii.



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6. Define arc of a circle.



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7. Define sector of a circle.



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8. When an arc becomes a semi circle ?



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9. Define segment.



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10. What is the distance between the biggest chord and the centre ?



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11. What is the perimeter of a circle ?



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12. How many common tangents can be drawn to two concentric circles ?



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13. What is the name given to a line intersecting a circle in two points ?



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14. Write the formula to find the length of DCT.



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15. Define point of contact.



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16. Find the distance between two parallel tangents drawn to a circle.



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17. Find the number of tangents that can be drawn to two internally touching circles.



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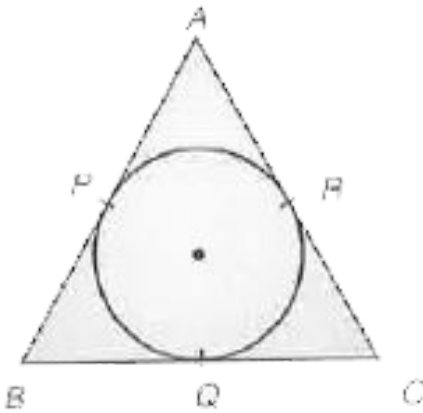
18. For two circles of radii r and R , the distance between their centres is d . What type of circles are they, if $d < R + r$?



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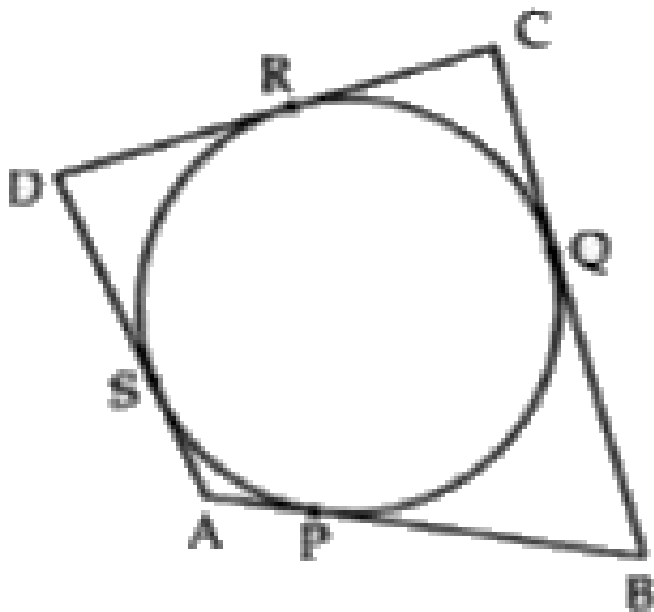
Topic 3 Circle Chord Tangents And Their Properties Short Answer Type Questions

1. In the given figure, AB , BC and Ac are tangents to the circle at P, Q and R . If $AB = AC$, show that Q is the mid-point of BC .



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2. Quadrilateral ABCD is drawn to circumscribe a circle. Prove that $AB + CD = AD + BC$.



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3. A pair of perpendicular tangents are drawn to a circle from an external point. Prove that the length of each tangent is equal to the radius of the circle.



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4. If the sides of a parallelogram touch a circle, prove that parallelogram is a rhombus.



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Topic 3 Circle Chord Tangents And Their Properties Long Answer Type Questions I

1. Prove that, "If two circles touch each other externally, their centres and the point of contact are collinear".



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2. Prove that the tangents drawn to a circle from an external point are equal.



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3. The tangents drawn from an external point to a circle (i) are equal, (ii) subtend equal angles at the centre.



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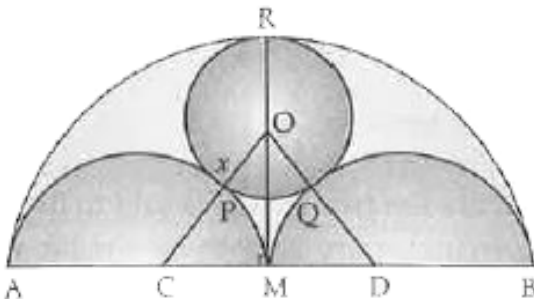
4. Two tangents TP and TQ are drawn to a circle with centre O from an external point T. Prove that $\angle PTQ = 2\angle OPQ$.



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Topic 3 Circle Chord Tangents And Their Properties Long Answer Type Questions Ii

1. In the given figure $AB = 8$ cm, M is the mid-point of AB . Semi-circles are drawn on AM and MB as a diameters. A circle with centre 'O' touches all three semi-circles as shown. Prove that radius of this circle is $\frac{1}{6} AB$.





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Topic 4 Construction Of A Triangle Similar To A Given Triangle Very Short Answer Type Questions

1. In drawing a triangle, if $AB = 3$ cm, $BC = 2$ cm and $AC = 6$ cm. What is the possibility that a triangle cannot be drawn.



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2. When construction of a triangle similar to a given triangle in the scale factor $\frac{5}{3}$, then what is the nature of given triangle?



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Textbook Corner Exercise 6 1

1. Draw a line segment of length 7.6 cm and divide it in the ratio 5 : 8. Measure the two parts.



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2. Construct a triangle of sides 4 cm, 5 cm and 6 cm and then a triangle similar to it whose sides are $\frac{2}{3}$ of the corresponding sides of the first triangle.



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Textbook Corner Exercise 6 2

1. Draw a line segment AB of length 8 cm. Taking A as centre, draw a circle of radius 4 cm and taking B as centre, draw another circle of radius 3 cm. Construct tangents to each circle from the centre of the other circle.



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