



MATHS

BOOKS - UNITED BOOK HOUSE

Theorems related to circle

Exercise

1. Multiple Choice Questions (MCQ) AOB is a diameter of the circle with centre at O. CD is a

chord of a circle and $OE \perp CD$. If $DC = 8\text{cm}$ and $OE = 3\text{cm}$. Then the length of AOB is

A. 10cm

B. 6cm

C. 12cm

D. 16cm

Answer:



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2. The length of two chords AB and CD of a circle of centre O are equal and $\angle AOB = 60^\circ$, then $\angle COD$ is _____

A. 30°

B. 45°

C. 60°

D. 90°

Answer:



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3. AB and CD are two equal chords of a circle with centre O. If $\angle AOB = 60^\circ$ and $CD = 8\text{cm}$, then the radius of the circle is



A. 4cm

B. 8cm

C. 12cm

D. 6cm

Answer:



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4. PQ and RS are two chords of equal length of a circle with centre O. If the perpendicular distance from O upon PQ is 9cm, then distance of RS from O is

A. 5cm

B. 9cm

C. 12cm

D. 13cm.

Answer:



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5. AB and CD are two chords of equal lengths of the circle with centre at O. The distance of the chord AB from the centre O is 4cm. Then the distance of the chords CD from the centre O is

A. 4cm

B. 8cm

C. 2cm

D. none of these.

Answer:



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6. P is a point within a circle with centre O. If the radius of the circle is 13cm. And $OP = 12\text{cm}$, then the length of the least chord through P is

A. 4.5cm

B. 5.5cm

C. 9cm

D. 10cm.

Answer:



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7. Two parallel chords PQ and ST of length 10cm. And 24cm. Respectively are drawn on the opposite sides of the centre O of the circle. If

the distance between the chords PQ and ST is 17cm, then the radius of the circle is

- A. 13cm
- B. 13.5cm
- C. 14cm
- D. 15cm.

Answer:



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8. O is the circumcentre of $\triangle PCQ$ and CA is a diameter of the circle. AP is a chord. IF $\angle PCA = 35^\circ$, then the value of $\angle PQC$ is

A. 35°

B. 45°

C. 55°

D. none of these.

Answer:



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9. The length of each of two parallel chords AB and CD is 16cm. If the radius of the circle be 10cm, then the distance between the two chords is

A. 8cm

B. 10cm

C. 12cm

D. 16cm.

Answer:



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10. If O is the circumcentre of $\triangle ABC$, then the value of $(\angle OBC + \angle BAC)$ is

A. 45°

B. 60°

C. 75°

D. 90°

Answer:



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11. ABC is a right angled triangle, right angled at B such that $BC = 6$ cm and $AB = 8$ cm. A circle with centre O is inscribed in $\triangle ABC$. The radius of the circle is _____

A. 1 cm

B. 2 cm

C. 3 cm

D. 4 cm

Answer:



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12. From three non-collinear points we can draw_____

- A. No circle
- B. only one circle
- C. only two circle
- D. Many circles

Answer:



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13. The length of each of two parallel chords AB and CD is 16cm. If the radius of the circle be 10cm, then the distance between the two chords is

A. 12 cm

B. 16 cm

C. 20 cm

D. 5 cm

Answer:



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14. The radius of the incircle of the equilateral triangle having each side 6 cm is ____

A. $2\sqrt{3}cm$

B. $\sqrt{3}cm$

C. $6\sqrt{3}cm$

D. 2 cm

Answer:



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15. In a triangle, if orthocentre, circumcentre, incentre and centroid coincide, then the triangle must be_____

A. obtuse angled

B. isosceles

C. equilateral

D. right-angled

Answer:



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16. One chord of a circle is known to be 10 cm.

The radius of this circle must be _____

A. 5 cm

B. greater than 5 cm

C. greater than or equal to 5 cm

D. less than 5 cm

Answer:



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17. Two equal circles of radius 4 cm intersect each other such that each passes through the centre of the other. The length of common chord is ____

A. $2\sqrt{3}cm$

B. $4\sqrt{3}cm$

C. $2\sqrt{2}cm$

D. 8 cm

Answer:



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18. Chords AB and CD of a circle intersect externally at P. If $AB = 6$ cm, $CD = 3$ cm and $PD = 5$ cm, then the length of PB is ____

A. 4 cm

B. 5 cm

C. 6 cm

D. 7.35 cm

Answer:



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19. Chords AC and BD of a circle with centre O intersect at right angles at E. If $\angle OAB = 25^\circ$, then the value of $\angle EBC$ is _____

A. 30°

B. 25°

C. 20°

D. 15°

Answer:



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20. If two concentric circles are of radii 5 cm and 3 cm, then the length of the chord of the larger circle which touches the smaller circle is ___

A. 6 cm

B. 7 cm

C. 10 cm

D. 8 cm

Answer:



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21. Two circles having radii r units intersect each other in such a way that each of them

passes through the centre of the other. Then the length of their common chord is ____

- A. r units
- B. $\sqrt{2}r$ units
- C. $\sqrt{3}r$ units
- D. $\sqrt{5}r$ units.

Answer:



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