doubtnut
India's Number 1 Education App

MATHS

BOOKS - RD SHARMA MATHS (HINGLISH)

CIRCLES

Others

1. If radii of the two concentric circles are 15cm and 17cm, then the length of each chord of

one circle which is tangent to other is:

A. 8cm

B. 16cm

C. 30cm

D. 17cm

Answer: 16cm

Watch Video Solution

2. In two concentric circle, prove that a chord of larger circle which is tangent to smaller circle is bisected at the point of contact.

Watch Video Solution

3. From an external point P, two tangents $PAandPB$ are drawn to the circle with centre O. Prove that OP is the perpendicular bisector of AB.

Watch Video Solution

4. A circle is inscribed in a ABC having side $8cm, 10cmand12cm$ as shown in Figure. Find $AD, BEandCF.$

Watch Video Solution

5. $ABCD$ is a quadrilateral such that $\angle D = 90^0.$ A circle $C(O, r)$ touches the sides $AB, BC, CDandDA$ at $P, Q, RandS$ respectively. If

$BC = 38cm, CD = 25cm and BP = 27cm,$

find r.

Watch Video Solution

6. $PA and PB$ are tangents from P to the circle with centre O. At point M, a tangent is drawn cutting PA at K and PB at N. Prove that $KN = AK + BN$.

Watch Video Solution

7. In Figure, $XPandXQ$ are tangents from X to the circle with centre $O\dot{R}$ is a point on the circle. Prove that, $XA + AR = XB + BR$

Watch Video Solution

8. In figure, sides QP and RQ of PQR are produced to point S and T respectively. If $\angle SPR = 135^0$ and $\angle PQT = 110^0,$ find $\angle PRQ.$ Figure

Watch Video Solution

9. Two concentric circles are of diameters 30cm and 18cm. Find the length of the chord of the larger circle which touches the smaller circle.

Watch Video Solution

10. In the given figure, AB is diameter of a circle with centre O and AT is a tangent at $\angle AOQ = 58^\circ$, find $\angle ATQ$.

Watch Video Solution

11. In Figure, BC is a tangent to the circle with centre $O\dot{O}E$ bisects AP. Prove that $AEO \sim ABC$.

Watch Video Solution

12. In Figure, two tangents $ABandAC$ are drawn to a circle with centre O such that $\angle BAC = 120^0$. Prove that $OA = 2AB$

Watch Video Solution

13. In the given figure, O is the centre of the circle and OLM is perpendicular to AOB prove that (i) A, O, P and M are concyclic (i) $\angle OAP = \angle OMB$ (iii) P, L, O and B are concyclic

Watch Video Solution

14. In Figure, common tangents $PQandRs$ to two circle intersect at A. Prove that $PQ = RS$.

Watch Video Solution

15. Circles C(O, r) and C(O', r'), $(r > r')$ touch internally at P. PQ is a chord of circle C(O, r) which intersects C(O', r') at R. Show that OO'RQ is a trapezium

Watch Video Solution

16. Two concentric circles of radii $3\ cm$ and $5\ cm$ are given. Then length of chord BC which

touches the inner circle at P is equal to

A. $8\ cm$

B. $9\ cm$

C. $10\ cm$

D. $11\ cm$

Answer: A

Watch Video Solution

17. In Figure, a circle with centre O is inscribed in a quadrilatal $ABCDsuchthat, iouchessides$ BC, AB, AD na CD AT POINTS P, Q, R and S respectively. If $AB = 29cm$, $AD = 23cm$, $\angle B = 90^0$ and $DS = 5cm,$ then the radius of the circle (in cm) is 11 (b) 18 (c) 6 (d) 15

A. 11

B. 18

C. 6

D. 15

Answer: option 1

Watch Video Solution

18. In Figure, O is the centre of the circle and BCD is tangent to it at C. Prove that $\angle BAC + \angle ACD = 90^0$.

Watch Video Solution

19. In Figure, there are two concentric circles with centre O of radii $5cmand3cm$. From an external point P, tangents $PAandPB$ are drawn to these circles. If $AP = 12cm$, find the length of BP.

Watch Video Solution

20.. In the given figure, two equal circles, with centres O and O', touch each other at X. OO' produced me the circle with centre O' at A. AC

is tangent to the circle with centreO, at the point C. O'D is perpendicular to AC. Find the value of $\frac{DO'}{CO}$.

Watch Video Solution

21. Prove that the segment joining the point of contact of two parallel tangents passes through the centre.

Watch Video Solution

22. In Figure, circle $C(O, r) and C\left(O' \frac{r}{2}\right)$ touch internally at a point. $A and AB$ is a chord of the circle $C(O, r)$ intersecting $C\left(O', \frac{r}{2}\right)$ at C. Prove that $AC = CB$

Watch Video Solution

23. In two concentric circles prove that all chords of the outer circle which touch the inner circle are of equal length.

Watch Video Solution

24. Let A be one point of intersection of two intersecting circles with centres O and Q. The tangents at A to the two circls meet the circles again at B and C, respectively. Let the point P be located so that $AOPQ$ is a parallelogram. Prove that P is the circumcentre of the triangle ABC.

Watch Video Solution

25. Two circles with centres A and B of radii $3cm$ and $4cm$ respectively intersect at two points C and D such that AC and BC are tangents to the two circles. Find the length of the common chord CD.

Watch Video Solution

26. If an isosceles triangle ABC in which $AB = AC = 6cm$ is inscribed in a circle of radius $9cm$, find the area of the triangle.

Watch Video Solution

27. O is the centre of a circle of radius 5cm. T is a point such that OT=13cm and OT intersects the circle at E. If AB is the tangent to the circle at E, find length of AB.

Watch Video Solution

28. AB is a diameter of a circle. P is a point on the semi-circle $APB\dot{A}HandBK$ are perpendiculars from A and B respectively to

the tangent at P. Prove that $AH + BK = AB$.

Watch Video Solution