MATHS

BOOKS - UNITED BOOK HOUSE

Theorems related to Tangent to a Circle

Exercise

1. If two circle touch externally, then the number of their common tangents will be

A. 1

B. 2

C. 3

D. none of these.

Answer:

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2. If two circle touch externally, then the number of their common tangents will be

A. 1

B. 2

C. 3

D. 4

Answer:

3. If two circles intersect each other, then the number of their common tangents will be

A. 1

B. 2

C. 3

D. 4

Answer:

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4. Number of common tangents of two

concentric circle are

A. 0

B. 1

C. 2

D. 3

Answer:

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5. Number of common tangents of two non touching, non intersecting and non-concentric circle are

A. 1

B. 2

C. 3

D. 4

Answer:

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6. If the length of the tangent from an external

point P to a circle of radius 10cm. Is 24cm, then

the distance of P from the centre is

A. 13cm.

B. 26cm.

C. `sqrt13 cm.

D. `sqrt26 cm.

Answer:

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7. The length of the tangent from a point at a

distance 13cm. From the centre of a circle with

diameter 10cm. Is

A. 14cm.

B. 14.5cm.

C. 15cm.

D. 12cm.

Answer:

8. The radii of two circles are 25cm. And 9cm. If they touch externally, then the length of their direct common tangent is

A. 25cm.

B. 27cm.

C. 28cm.

D. 30cm.

Answer:

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9. Two circles touch externally at P. A direct common tangent AB to two circles touch the

circles at A and B. Then the measure of $\angle APB$ is

A. 90°

B. 75°

C. 60°

D. 45°

Answer:

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10. The radius of a circle with centre O is 5cm. P is a point at a distance 13cm from O. PQ and PR are two tangents to this circle. Find the area of the quadrilaterral PQOR.

A. 48sq.cm.

B. 52sq.cm.

C. 60sq.cm.

D. 65sq.cm.

Answer:

11. The radius of two concentric circles are 9 cm and 15 cm. If the chord of the greater circle be a tangent to the smaller circle, then the length of that chord is___

    A. 24 cm

    B. 12 cm

    C. 30 cm

    D. 18 cm

Answer:

12. If a chord of a circle of radius 5 cm is a tangent to anther circle of radius 3 cm, both the circles being concentric, then the length of the chord is____

A. 10 cm

B. 12.5 cm

C. 8 cm

D. 7 cm

Answer:

13. The tangents are drawn at the extremities of diameter AB of a circle with centre P. If a tangent to the circle at the point C intersects the other two tangents at Q and R, thenthe measure of the $\angle QPR$ is___

A. $45°$

B. $60°$

C. $90°$

D. $180°$

Answer:

14. AB is a chord to a circle and PAT is the tangent to the circle at A. If $\angle BAT = 75°$ and $\angle BAC = 45°$, C being a point on the circle, then $\angle ABC$ is equal to___

A. $40°$

B. $45°$

C. $60°$

D. $70°$

Answer:

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15. The tangents at two points A and B on the

circle with the centre O intersects at P, if in

quadrilateral $\angle AOB : \angle APB = 5 : 1$, then the measure of $\angle APB$ is____

A. $30°$

B. $60°$

C. $45°$

D. $15°$

Answer:

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16. Two circles touch each other externally at point A and PQ is a direct common tangent which touches the circles at P and Q respectively. Then $\angle PAQ$ =

    A. 45°

    B. 90°

    C. 80°

    D. 100°

Answer:

17. PR is tangent to a circle, with centre O and radius 4 cm, at point Q. If $\angle POR = 90°$, OR = 5 cm and OP = m.cm, then the length (in cm) of PR is___

    A. 3

    B. 16/3

    C. 23/3

    D. 25/3

Answer:

18. Two circles touch each other externally at P. AB is a direct common tangent to the circles, A and B are point of contact and $\angle PAB = 35°$. Then $\angle ABP$ is___

A. $35°$

B. $55°$

C. $65°$

D. 75°

Answer:

19. If the radii of two circles be 6 cm and 3 cm and the length of the transverse common tangent be 8 cm, then the distance between the two centres is_____

A. $\sqrt{145}cm$

B. $\sqrt{140}cm$

C. $\sqrt{150}cm$

D. $\sqrt{135}cm$

Answer:

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20. The distance between the centre of two equal circles, each of radius 3 cm, is 10cm. The length of a transverse common tangent is____

A. 8 cm

B. 10 cm

C. 4 cm

D. 6 cm

Answer:

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21. The radii of two circles are 5 cm and 3 cm, the distance between their centre is 24 cm.

Then the length of the transverse common tangent is____

   A. 16 cm

   B. $15\sqrt{2}$ cm

   C. $16\sqrt{2}$ cm

   D. 15 cm

Answer:

22. P and Q are two points ona circle with centre at O. R is a point on the minor arc of the circle, between the points P and Q. The tangents to the circle at the points P and Q meet each other at the points S. If $\angle PSQ = 20°$, then $\angle PRQ$ =

A. $80°$

B. $200°$

C. $160°$

D. $100°$

Answer:

23. Two circles interest at A and B. P is a point on produced BA. PT and PQ are tangents to the circle. The relation of PT and PQ is___

A. $PT = 2PQ$

B. $PT < PQ$

C. $PT > PQ$

D. $PT = PQ$

Answer:

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24. The length of the tangent drawn to a circle of rdius 4 cm from a point 5 cm away from the centre of the circle is___

A. 3 cm

B. $4\sqrt{2}$ cm

C. $5\sqrt{2}$ cm

D. $3\sqrt{2}$ cm

Answer:

25. From a point P, two tangents PA and PB are drawn to a circle with centre O. If OP is equal to diameter of the circle then $\angle APB$ is___

A. $45°$

B. $90°$

C. $30°$

D. $60°$

Answer:

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26. The radii of two concentric circles are 13 cm ad 8 cm. AB is a diameter of the bigger circle and BD is a tangent to the smaller circle touching it at D and the bigger circle at E. Point A is joined to D. The length of AD (in cm) is___

    A. 20

B. 19

C. 18

D. 17

Answer:

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27. DE is a tangent to the circum circle of

$\triangle ABC$ at the vertax A such that DE ||BC. If

AB =17 cm, then then length of AC in cm is

equal to___

A. 16

B. 16.8

C. 17

D. cannot be determined

Answer:

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28. The minimum number of common

tangents drawn to two circles when both

circles touch each other externally is___

A. 0

B. 1

C. 2

D. 3

Answer:

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29. The radius of a circle is 6 cm. The distance of a point lying outside the circle from the centre is 10 cm. The length of the tangent

drawn from the outside point to the circle

is___

A. 5 cm

B. 6 cm

C. 7 cm

D. 8 cm

Answer: