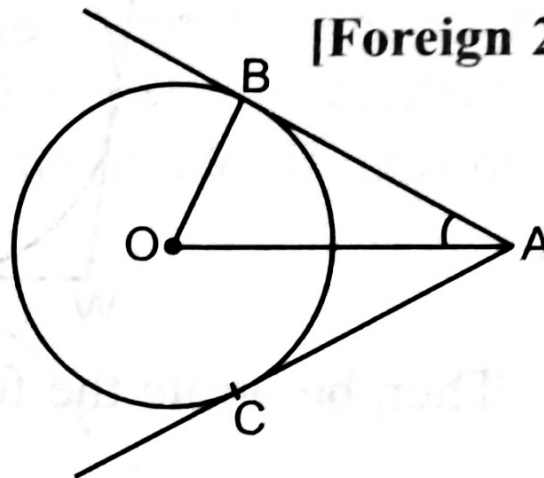


Question numbers 1 to 31 are of 1 mark each.

1. In figure, AB and AC are tangents to a circle with centre O and radius 8 cm. If $OA = 17$ cm, then the length of AC (in cm) is

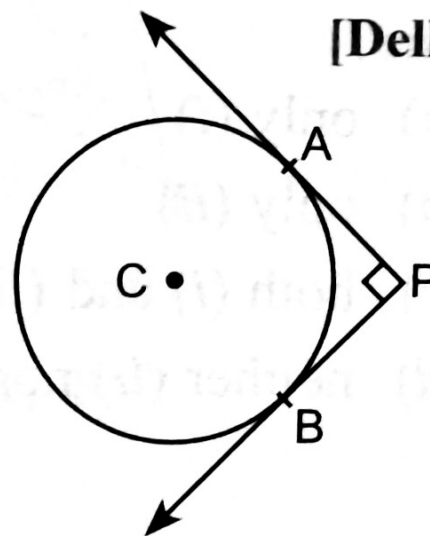
[Foreign 2012]



- (a) $\sqrt{353}$
- (b) 15
- (c) 9
- (d) 25

2. In figure, PA and PB are two tangents drawn from an external point P to a circle with centre C and radius 4 cm. If $PA \perp PB$, then the length of each tangent is:

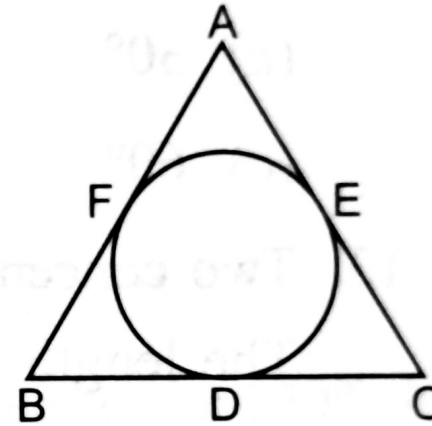
[Delhi 2013]



- (a) 3 cm
- (b) 4 cm
- (c) 5 cm
- (d) 6 cm

3. A triangle ABC is drawn to circumscribe a circle. If $AB = 13$ cm, $BC = 14$ cm and $AE = 7$ cm, then AC is equal to

- (a) 12 cm
- (b) 15 cm
- (c) 11 cm
- (d) 16 cm



4. A right $\triangle ABC$ right angled at A is drawn to circumscribe a circle of radius 5 cm with centre O. If $AC = 17$ cm and $AB = 18$ cm, then OC is equal to

- (a) 10 cm (b) 9 cm (c) 12 cm (d) 13 cm
5. Distance between two parallel lines is 14 cm. The radius of circle which will touch both lines is
- (a) 6 cm (b) 7 cm (c) 12 cm (d) 14 cm
6. A line ' m ' is tangent to a circle with radius 5 cm. Distance between the centre of circle and the line m is
- (a) 3 cm (b) 4 cm (c) 5 cm (d) 6 cm

7. If a line intersects a circle in two distinct points, then it is known as a

- (a) tangent (b) chord
(c) Radius (d) secant

8. A line segment, having its end point on a circle, is known as

- (a) tangent (b) chord
(c) radius (d) secant

9. If a line touches the circle at only one point, then it is known as

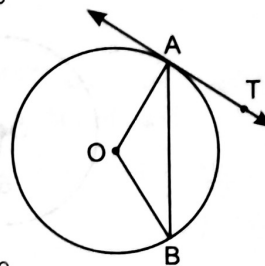
- (a) tangent (b) chord
(c) radius (d) secant

10. PQ is a tangent drawn from a point P to a circle with centre O and QOR is a diameter of the circle such that $\angle POR = 110^\circ$, then $\angle OPQ$ is

- (a) 40° (b) 50°
(c) 30° (d) 20°

11. In given figure, O is the centre of the circle, AB is a chord and AT is the tangent at A. If $\angle AOB = 100^\circ$ then $\angle BAT$ is

- (a) 30° (b) 40°
(c) 50° (d) 100°



12. PQ is a tangent to a circle with centre O at the point P on the circle. If $\triangle OPQ$ is an isosceles triangle, then $\angle OQP$ is

- (a) 30° (b) 45°
(c) 60° (d) 75°

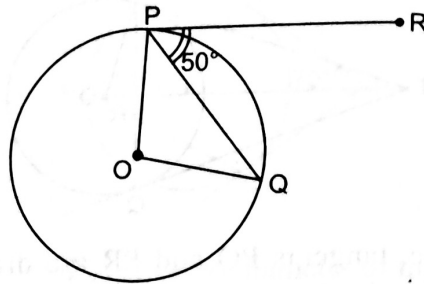
13. Two concentric circles have radii 10 cm and 6 cm. The length of the chord of the larger circle which touches the smaller circle is

- (a) 5 cm (b) 6 cm
(c) 8 cm (d) 16 cm

14. If tangents PA and PB from an external point P to a circle with centre O are inclined to each other at an angle of 70° , then $\angle POA$ is

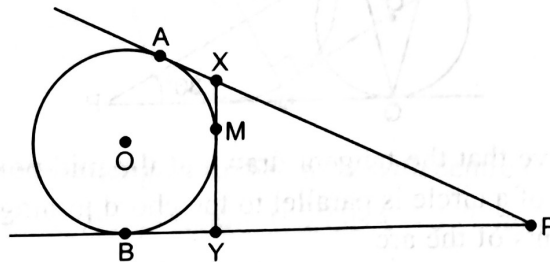
- (a) 100° (b) 65°
(c) 55° (d) 110°

15. In the figure, if O is the centre of the circle, PQ is a chord and tangent PR at P makes an angle of 50° with PQ, then $\angle POQ$ is equal to



- (a) 100° (b) 80° (c) 90° (d) 75°

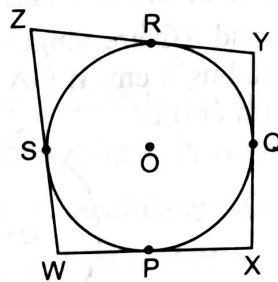
16. In the figure below, ΔPXY is formed using three tangents to a circle centred at O.



Based on the construction, the sum of the tangents PA and PB is _____ the perimeter of ΔPXY .

- (a) lesser than
(b) greater than
(c) equal to
(d) (cannot be answered without knowing the tangent lengths)

17. Raghav drew the following figure on a board where a circle is inscribed in a quadrilateral.



Then he wrote the following relationships.

(i) $ZW + WX = XY + YZ$

(ii) $ZY + WX = ZW + YX$

Which of the above relationships is/are DEFINITELY true?

[CFPQ, CBSE]

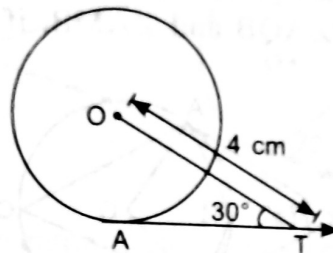
- (a) only (i)
(b) only (ii)
(c) both (i) and (ii)
(d) neither (ii) nor (ii)

18. A circle has a centre O and radii OQ and OR. Two tangents, PQ and PR, are drawn from an external point, P.

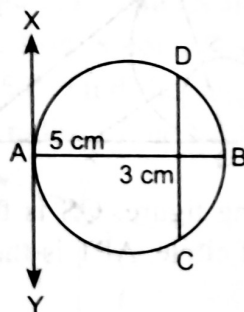
In addition to the above information, which of these must also be known to conclude that the quadrilateral PQOR is a square?

[CFPQ, CBSE]

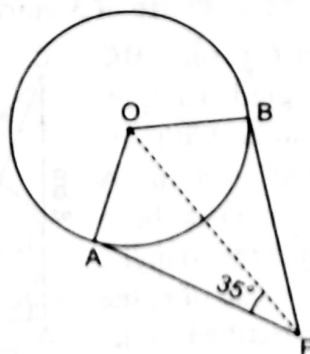
- (i) OQ and OR are at an angle of 90° .
 (ii) The tangents meet at an angle of 90° .
 (a) only (i) (b) only (ii)
 (c) either (i) or (ii) (d) both (i) and (ii)
19. In the given figure, AT is a tangent to the circle with centre O such that OT = 4 cm and $\angle OTA = 30^\circ$. Then AT is equal to



- (a) 4 cm (b) 2 cm
 (c) $2\sqrt{3}$ cm (d) $4\sqrt{3}$ cm
20. At one end A of a diameter AB of a circle of radius 5 cm, tangent XAY is drawn to the circle. The length of the chord CD parallel to XY and at a distance 8 cm from A is

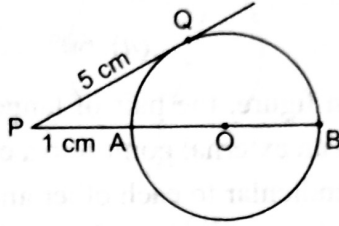


- (a) 4 cm (b) 5 cm
 (c) 6 cm (d) 8 cm
21. In the given figure, PA and PB are the two tangents drawn from point P to the circle. O is the centre of the circle. A and B are the points of contact of the tangents PA and PB with the circle. If $\angle OPA = 35^\circ$, then $\angle POB =$

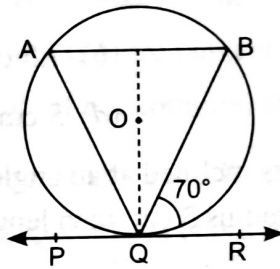


- (a) 55° (b) 65°
 (c) 75° (d) 85°

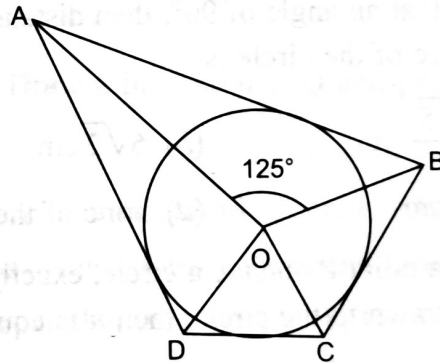
22. In the given figure, PQ is tangent to the circle at P whose centre is at O and secant PAB passes through the centre O. If PQ = 5 cm and PA = 1 cm, then the radius of the circle is



- (a) 8 cm (b) 12 cm
(c) 10 cm (d) 6 cm
23. In the given figure, if PQR is the tangent to a circle at Q whose centre is O, AB is a chord parallel to PR and $\angle BQR = 70^\circ$, then $\angle AQB$ is equal to



- (a) 20° (b) 40°
(c) 35° (d) 45°
24. In the given figure, if $\angle AOB = 125^\circ$, then $\angle COD$ is equal to



- (a) 62.5° (b) 45°
(c) 35° (d) 55°
25. If the angle between two radii of a circle is 130° , the angle between the tangents at the ends of the radii is
- (a) 90° (b) 50°
(c) 70° (d) 40°
26. From a point Q, the length of the tangent to a circle is 48 cm and the distance of Q from the centre of the circle is 50 cm. Then the radius of the circle is
- (a) 7 cm (b) 14 cm
(c) 15 cm (d) 24.5 cm