



KINETICS

We Nurture The Future

IIT-JEE | Medical | Foundations

Circles

Question 1.

Two circles touch each other externally at C and AB is a common tangent to the circles. Then, $\angle ACB =$

- (a) 60°
- (b) 45°
- (c) 30°
- (d) 90°

Answer: (d) 90°

Question 2.

If TP and TQ are two tangents to a circle with centre O so that $\angle POQ = 110^\circ$, then, $\angle PTQ$ is equal to

- (a) 60°
- (b) 70°
- (c) 80°
- (d) 90°

Answer: (b) 70°

Question 3.

Tangents from an external point to a circle are

- (a) equal
- (b) not equal
- (c) parallel
- (d) perpendicular

Answer: (a) equal

Question 4.

Two parallel lines touch the circle at points A and B respectively. If area of the circle is $25\pi\text{ cm}^2$, then AB is equal to

- (a) 5 cm
- (b) 8 cm
- (c) 10 cm
- (d) 25 cm

Answer: (c) 10 cm

Question 5.

A line through point of contact and passing through centre of circle is known as

- (a) tangent
- (b) chord
- (c) normal
- (d) segment

Answer: (c) normal

Question 6.

A tangent PQ at a point P of a circle of radius 5 cm meets a line through the centre O at a point Q

- (a) $\sqrt{119}$ cm
- (b) 13 cm
- (c) 12 cm
- (d) 8.5 cm

Answer: (a) $\sqrt{119}$ cm

Question 7.

From a point P which is at a distance of 13 cm from the centre O of a circle of radius 5 cm, the pair of tangents PQ and PR to the circle are drawn. Then the area of the quadrilateral PQOR is

- (a) 60 cm^2
- (b) 65 cm^2
- (c) 30 cm^2
- (d) 32.5 cm^2

Answer: (a) 60 cm^2

Question 8.

At point A on a diameter AB of a circle of radius 10 cm, tangent XAY is drawn to the circle. The length of the chord CD parallel to XY at a distance 16 cm from A is

- (a) 8 cm

- (b) 10 cm
- (c) 16 cm
- (d) 18 cm

Answer: (c) 16 cm

Question 9.

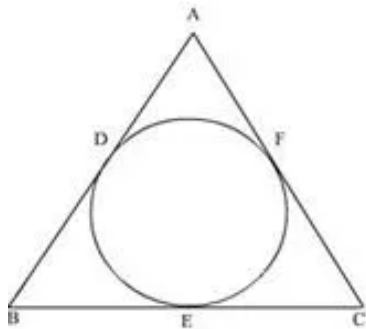
The tangents drawn at the extremities of the diameter of a circle are

- (a) perpendicular
- (b) parallel
- (c) equal
- (d) none of these

Answer: (b) parallel

Question 10.

A circle is inscribed in a $\triangle ABC$ having $AB = 10\text{cm}$, $BC = 12\text{cm}$ and $CA = 8\text{cm}$ and touching these sides at D , E , F respectively. The lengths of AD , BE and CF will be



- (a) $AD = 4\text{cm}$, $BE = 6\text{cm}$, $CF = 8\text{cm}$
- (b) $AD = 5\text{cm}$, $BE = 9\text{cm}$, $CF = 4\text{cm}$
- (c) $AD = 3\text{cm}$, $BE = 7\text{cm}$, $CF = 5\text{cm}$
- (d) $AD = 2\text{cm}$, $BE = 6\text{cm}$, $CF = 7\text{cm}$

Answer:

Question 11.

If four sides of a quadrilateral $ABCD$ are tangential to a circle, then

- (a) $AC + AD = BD + CD$
- (b) $AB + CD = BC + AD$
- (c) $AB + CD = AC + BC$
- (d) $AC + AD = BC + DB$

Answer: (b) $AB + CD = BC + AD$

Question 12.

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 $\angle POR = 120^\circ$, then $\angle OPQ$ is

- (a) 60°
- (b) 45°
- (c) 30°
- (d) 90°

Answer: (c) 30°

Question 13.

Number of tangents drawn at a point of the , circle is/are

- (a) one
- (b) two
- (c) none
- (d) infinite

Answer: (a) one

Question 14.

The maximum number of common tangents that can be drawn to two circles intersecting at two distinct point is

- (a) 2
- (b) 4
- (c) 1
- (d) 3

Answer: (a) 2

Question 15.

In a circle of radius 7cm, tangent PT is drawn from point P such that $PT = 24\text{cm}$. If O is the centre of the circle, then the length of OP is:

- (a) 30cm
- (b) 31cm
- (c) 28cm
- (d) 25cm

Answer: (d) 25cm

Question 16.

If tangents PA and PB from a point P to a circle with centre O are inclined to each other at an angle of 80° then $\angle POA$ is equal to

- (a) 50°
- (b) 60°
- (c) 70°
- (d) 80°

Answer: (a) 50°

Question 17.

Segment joining the points of contact of two parallel tangents

- (a) may or may not pass through the centre.
- (b) will pass through the centre.
- (c) will not pass through the centre.
- (d) none of these

Answer: (b) will pass through the centre.

Question 18.

The length of a tangent drawn from a point at a distance of 10 cm of circle is 8 cm. The radius of the circle is

- (a) 4 cm
- (b) 5 cm
- (c) 6 cm
- (d) 7 cm

Answer: (c) 6 cm

Question 19.

The length of tangents drawn from an external point to the circle

- (a) are equal
- (b) are not equal
- (c) sometimes are equal
- (d) are not defined

Answer: (a) are equal

Question 20.

A tangent is drawn from a point at a distance of 17 cm of circle $C(0, r)$ of radius 8 cm. The length of its tangent is

- (a) 5 cm
- (b) 9 cm
- (c) 15 cm
- (d) 23 cm

Answer: (c) 15 cm
