CBT   NOVENMER 2023
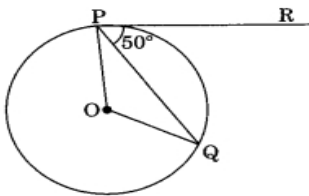
CLASS 10

SUB. MATHS

Q1. The common point of a tangent to a circle with the circle is called _____

(a) Centre   (b) point of contact   (c) end point   (d) none of these.
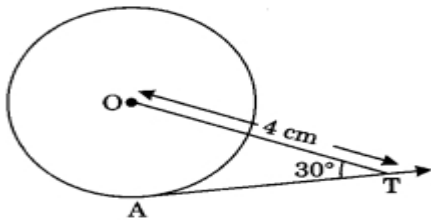
Correct option - (b)   point of contact

Q2. In the given Fig. if O is the centre of a circle PQ is a chord and the tangent PR at P makes an angle of 50^0 with PQ, then $\angle POQ$ is equal to ------

(a) 100°   (b) 80°   (c) 90°   (d) 75°

Correct potion- (a) 100^0

Q3. In Fig., AT is a tangent to the circle with centre O such that OT = 4 cm and $\angle OTA = 30^0$ Then AT is equal to---------

(a) 4 cm   (b) 2 cm   (c) 2√3 cm   (d) 4√3 cm

Correct option - (c)   2√3 cm

Q4. If two tangents inclined at an angle of 60° are drawn to a circle of radius 3cm, then the length of

each tangent is equal to

(a) 3√3/ 2 cm   (b) 3cm   (c) 6cm   (d) 3√3cm

Correct option - (d) 3√3cm

Q.5. In a maths class, the teacher draws two circles that touch each other externally at point K with centres A and B and radii 5 cm and 4 cm respectively as shown in the figure.
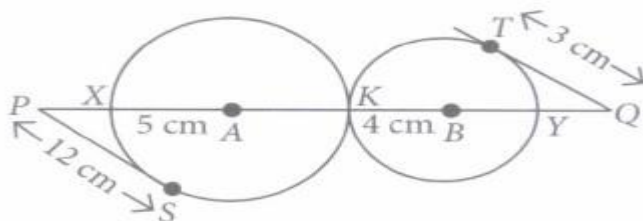
Based on the above information, Find the value of PA .

  (a) 13 cm   (b) 12 cm   (c) 8 cm   (d) 10 cm
        Correct option - (a) 13 cm

Q6. The area of a circular ring formed by two concentric circles whose radii are 5.7 cm and

   4.3 cm respectively is (Take $\pi = 3.14$)

        (a) 44 sq. cm.   (b) 66 sq. cm.   (c) 22 sq. cm.   (d) 33 sq. cm
   **Correct option** -   (a) 44 sq. cm

Q7. A brooch is a small piece of jewellery which has a pin at the back so it can be fastened on a dress, blouse or coat. Designs of a brooch is shown below. Observe it carefully.

Design A: Brooch A is made with silver wire in the form of a circle with diameter 28mm. The wire used for making 4 diameters which divide the circle into 8 equal parts. The area of each sector of the brooch is ---------------
        (a) 44 mm^2 (b) 77 mm^2 (c) 22 mm^2 (d) 55 mm^2
                        Correct option- (b) 77 mm^2

A
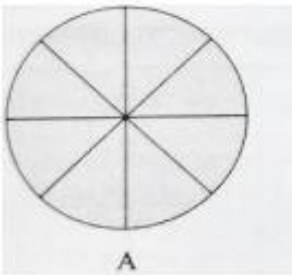
Q8. The radii of two circles are 8 cm and 6 cm respectively. Find the radius of the circle having its area equal to the sum of the areas of the two circles.

   (a) 8 cm   (b) 12 cm   (c) 14 cm   (d) 1o cm

     Correct option - (d) 1o cm

Q9. (A) Assertion : In a circle of radius 6 cm, the angle of a sector is 60° Then the area of the sector is $18\frac{6}{7}$ cm^2 .

   (B) Reason : Area of the circle with radius r is πr^2 .
     (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion
      (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

     (c) Assertion (A) is true but reason (R) is false.

     (d) Assertion (A) is false but reason (R) is true.

        Correct option - **(b)** Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

Q10.Assertion (A): If in a circle, the radius of the circle is 3 cm and distance of a point from the centre of a circle is 5 cm, then length of the tangent will be 4 cm.

Reason (R): $(hypotenuse)^2 = (base)^2 + (height)^2$

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

   Correct option - (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).