1. The area of a sector of angle p (in degrees) of a circle with radius R is:

   A. $\frac{P*2\pi R}{180}$ B. $\frac{P*2\pi R^2}{180}$

   C. $\frac{P*2\pi R}{360}$ D. $\frac{P*\pi R^2}{360}$ (D)

*Explanation :* The formula for the area of a sector is $\frac{P*\pi R^2}{360}$, where P is the angle of the sector.

2. If the length of an arc of a segment in a circle of radius r is π cm and the angle of the segment is 120°, then the radius of the circle is:

   A. 2 cm B. 3 cm

   C. $\frac{2\pi}{3}$ cm D. 2 cm (B)

*Explanation:* Using the formula for arc length $l$= $\frac{P*2\pi R}{360}$, substituting the given values gives the radius r = 3 cm.

3. If the length of an arc of a segment of angle 90° in a circle is 6π cm, the radius of the circle is:

   A. 6 cm B. 12 cm

   C. 18 cm D. 24 cm (B)

*Explanation:* Using the formula for the length of an arc $l$= $\frac{P*2\pi R}{360}$, the radius comes out to be 12 cm.

4. A circle has a radius of 14 cm. Find the area of the sector of angle 45°:

   A. 49 $cm^2$ B. 77 $cm^2$

   C. 22 $cm^2$ D. 154 $cm^2$ (A)

*Explanation:* The area of the sector is $\frac{45*\pi*14^2}{360}$= 49 $cm^2$

5. The angle subtended by a diameter at the center of the circle is:

   A. 0°

   B. 45°

   C. 90°

   D. 180° (C)

*Explanation :* The angle subtended by a diameter at the center is always 90°.

6. The area of the major sector of a circle with a radius of 10 cm and an angle of 270° is:

   A. 100π $cm^2$ B. 75π $cm^2$

   C. 50π $cm^2$ D. 25π $cm^2$ (B)

*Explanation :* The area of the major sector is $\frac{270}{360}$ * $\pi$* $10^2$ = 75π $cm^2$.

7. The region between a chord and an arc is called:

   A. Sector B. Segment

   C. Radius D. Tangent (B)

*Explanation :* The region between a chord and an arc is known as a segment of the circle.

8. If the radius of a circle is 7 cm and the angle of the sector is 60°, the area of the sector is:

   A. 49π $cm^2$

   B. $\frac{49\pi}{6}$ $cm^2$

   C. $\frac{49\pi}{3}$ $cm^2$

   D. $\frac{49\pi}{2}$ $cm^2$ (B)

*Explanation :* The area of the sector is $\frac{60*\pi*7^2}{360}$= $\frac{49\pi}{6}$ $cm^2$

9. The angle of a sector is the angle enclosed between the two radii of the sector. This angle is:

   A. 0°

   B. 45°

   C. 90°

   D. Any value between 0° and 360° (D)

*Explanation :* The angle of a sector is the angle between the two radii, and it can be any value between 0° and 360°.

10. The area of the minor segment of a circle with radius r and central angle θ (in degrees) is given by:

    A. $\frac{r^2\theta}{180}$ B. $\frac{r^2\theta}{360}$

    C. $\frac{r^2\theta}{90}$ D. $\frac{r^2\theta}{270}$ (B)

*Explanation :* The area of the minor segment is $\frac{r^2\theta}{360}$ * $\pi$− area of triangle.