SUCCESS KEY TEST SERIES

Work Sheet

Std: 11th Science **Subject: Mathematics & Statistics** **Time: 1Hrs**

Date :

1. Angle and its Measurements

Max Marks: 40

Q.1 Select and write the most appropriate answers from given alternatives: **10**

1) One angle of an isosceles triangle is $50°$. The remaining two angles are

(a) $\left(\frac{13\pi}{36}\right)^c$ *and* $\left(\frac{\pi}{3}\right)^c$ (b) $\left(\frac{13\pi}{36}\right)^c$ *and* $\left(\frac{13\pi}{36}\right)^c$

(c) $\left(\frac{13\pi}{36}\right)^c$ *and* $\left(\frac{2\pi}{3}\right)^c$ (d) $\left(\frac{13\pi}{36}\right)^c$ *and* $60°$

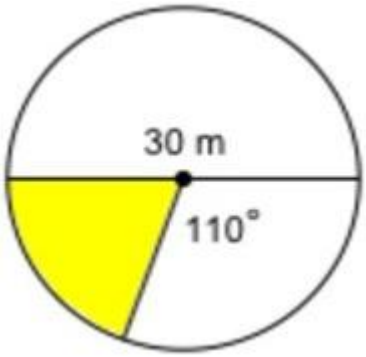
2) The exterior angle of 16 sided regular polygon is
(a) $22^o30'$ (b) $20^o30'$ (c) $32^o30'$ (d) $22^o35'$

3) The perimeter of a sector is equal to one-fourth of the circumference of a circle. Find the measure of the angle of the sector at the centre in radian.

(a) $\theta = (\pi - 2)^c$ (b) $\theta = \left(\frac{\pi}{2} - 2\right)^c$

(c) $\theta = \left(\frac{\pi}{2} - 4\right)^c$ (d) $\theta = \left(\frac{\pi}{4} - 2\right)^c$

4) Find the area of the shaded portion.



(a) $\frac{175\pi}{4}$ cm^2 (b) $\frac{175\pi}{2}$ m^2 (c) $\frac{17\pi}{4}$ m^2 (d) $\frac{175\pi}{4}$ m^2

5) $\left(\frac{22\pi}{15}\right)^c$ is equal to

(a) 246° (b) 264° (c) 224° (d) 426°

Q.2 Solve the following: **5**

1) Express the angle in degree, minute and second: -30.6947°

2) Convert the angle into radian: -132°

3) Find the length of an arc of a circle which subtends an angle of 108° at the centre, if the radius of circle is 15 cm.

4) Draw the angle of the measure and determine its quadrant: -140°

5) Determine whether the following pair of angle is co-terminal: 860°, 580°

Q.3 Answer the following: **10**

1) Find the radius of the circle in which central angle of 60° intercepts an arc of length 37.4 cm.(use π 22/7)

2) Convert the following angle in degree:

$$\frac{-5\pi^c}{3}$$

3) Find the degree and radian measure of exterior and interior angle of a regular: Octagon

4) The radius of a circle is 9 cm. Find the length of an arc of this circle which cuts off a chord of length, equal to length of radius.

5) Show that minute hand of a clock gains 5°30" on the hour hand in one minute.

Q.4 Solve the following: **15**

1) The measures of the angles of a triangle are in the ratio 3:7:8. Find their measures in degree and radian.

2) The area of a circle is 225π sq. cm. Find the length of its arc subtending an angle of 120° at the centre. Also find the area of the corresponding sector.

3) In a right angled triangle, the acute angles are in the ratio 4:5. Find the angles of the triangle in degree and radian.

4) In Δ ABC, if

$$m\angle A = \frac{7\pi^c}{36}$$

m ∠B =120°, find m ∠C in degree and radian.

5) Two arcs of the same lengths subtend angles of 60° and 75° at the centres of two circles. What is the ratio of radii of two circles?

-------- All the Best --------