PRISM WORLD

Std.: 9 (English) **Maths - II** **Marks: 20**

Date: **Time: 1 hour**

Chapter: 6 to 7

Q.1 A) Choose the correct alternative. **(2)**

1) If the length of a chord of a circle is 16 cm and is at a distance of 15 cm from the center of the circle then radius of the circle is

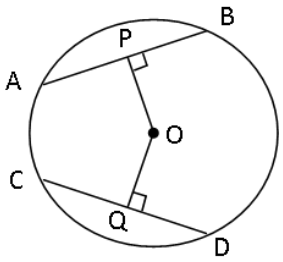
a. 15 cm b. 16 cm c. 17 cm d. 34 cm

2) The point whose x coordinate is 2 and y coordinate is -7, lies in

a. First quadrant b. Second quadrant
c. Third quadrant d. Fourth quadrant

B) Solve the following questions. **(2)**

1) In the figure, O is the centre of the circle and AB = CD. If OP = 4 cm, find the length of OQ.



2) Without plotting the points on a graph, state in which quadrant or on which axis do the following point lie.

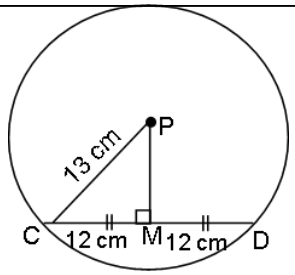
i. (-7, -12)
ii. (5, -3)

Q.2 A) Complete the following Activities. (Any one) **(2)**

1) Diameter of a circle is 26 cm and length of a chord of the circle is 24 cm. Find the distance of the chord from the centre.

Given:- (1) A circle with centre and diameter 26 cm
(2) Length of chord CD = 24 cm

(3) seg PM $\perp$ chord CD, C – M – D



To Find:- PM

Diameter of circle = 26cm ... [Given]

∴ Radius of the circle = _____

∴ PC = 13 cm

CM = _____ ... [Perpendicular drawn from the centre to the chord bisects the chord]

∴ CM = $\frac{1}{2}$× 24

CM = _____

In ΔPMC, ∠PMC = 90^0 ... [Given]

∴ PC^2 = _____ ... [Pythagoras theorem]

∴ $13^2 = PM^2 + 12^2$

∴ _____ = PM^2

∴ $PM^2 = 25$

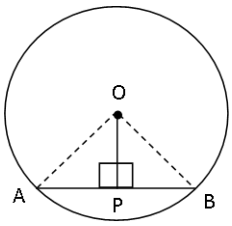
∴ PM = _____ ... [Taking square roots]

2) A perpendicular drawn from the centre of a circle on its chord bisects the chord.

Given: seg AB is a chord of a circle with centre O.

seg OP ⊥ chord AB

To prove: seg AP ≅ seg BP



Proof: Draw seg OA and seg OB

In ΔOPA and ΔOPB

∠OPA ≅ ∠OPB ..... _____

seg OP ≅ _____ ..... common side

hypotenuse OA ≅ hypotenuse OB ..... _____

∴ $\Delta OPA \cong \Delta OPB$ ..... hypotenuse side theorem

seg PA ≅ seg PB ..... _____

B) Solve the following questions. (Any two) **(4)**

1) On a graph paper plot the points A(3, 0), B(3, 3), C(0, 3). Join A, B and B, C. What is the figure formed?

2) A chord of length 48 cm is drawn in a circle of radius 25 cm. Calculate its distance from the centre of circle.

3) Plot the following points and check whether they are collinear or not:
(1, 3), (-1, -1) and (-2, -3)

Q.3 Solve the following questions. (Any one) **(3)**

1) Radius of a circle is 5 cm. The length of a chord of the circle is 8 cm. Find the distance of the chord from the centre.

2) Draw the co-ordinate system on a plane and plot the following points.
L(-2, 4), M(5, 6), N(-3, -4), P(2, -3), Q(6, -5), S(7, 0), T(0, -5)

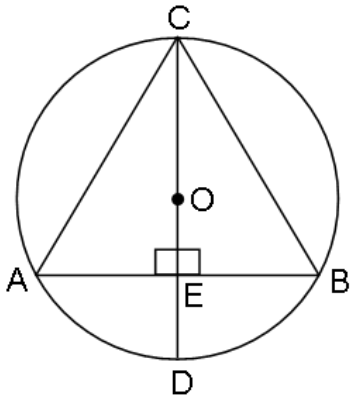
Q.4 Solve the following questions. (Any one) **(4)**

1) Draw a graph of the following linear equations.
$2x + y + 3 = 0$

2) Construct ΔDEF, such that DE = EF = 6 cm and $\angle F = 45^0$ and construct its circumcircle.

Q.5 Solve the following questions. (Any one) **(3)**

1) In the adjoining figure, CD is a diameter of the circle with centre O.Diameter CD is perpendicular to chord AB at point E. Show that $\triangle ABC$ is an isosceles triangle.



2) Draw the graphs of the following equations on the same system of co-ordinates. Write the co-ordinates of their points of intersection.

$x + 4 = 0$, $y - 1 = 0$, $2x + 3 = 0$, $3y - 15 = 0$