Paper: _Maths_____		Total Marks: __15_____
Month Test: _November_____		Obt. Marks: _____
Theme/Unit: _5.13_____		Grand Total: __75_____
Objective:	ID: _____	Time: ___20mins_____
Name: _____	class: __10th _____	Section: _____

Q. No. 1: encircle the correct answer:

1. Power set of an empty set is:
   - a. Φ
   - b. {a}
   - c. {Φ, {a}}
   - d. {Φ}

2. A fraction in which the degree of numinator is less than the degree of denominator is called:
   - a. Equation
   - b. Improper fraction
   - c. Proper fraction
   - d. All

3. Third proportional of x^2 and y^2 is:
   - a. y^2/x^2
   - b. x^2y^2
   - c. y^4/x^2
   - d. y^2/x^4

4. The set having only one element is called
   - a. Null set
   - b. Power set
   - c. Singleton set
   - d. subset

5. A complete circle is divided into:
   - a. 90°
   - b. 160°
   - c. 270°
   - d. 360°

6. The observation that divides a data set into four equal parts are called:
   - a. Deciles
   - b. Quartiles
   - c. Percentage
   - d. HM

7. A tangent line intersects the circle at:
   - a. Three points
   - b. Two points
   - c. One point
   - d. All points

8. A circle has only one:
   - a. Secant
   - b. Chord
   - c. Diameter
   - d. Center

9. Through how many non-collinear points a circle can pass
   - a. 1
   - b. 2
   - c. 3
   - d. None
   - e.

10. $Sec\theta \, Cot\theta$ = _____ ?
   - a. $Sin\theta$
   - b. $1/cos\theta$
   - c. $1/Sin\theta$
   - d. $Sin\theta/Cos\theta$

11. Angle inscribed in a semi circle is:
   - a. $\frac{\pi}{2}$
   - b. $\frac{\pi}{3}$
   - c. $\frac{\pi}{4}$
   - d. π

12.   How many common tangents can be drawn for two disjoint circles?
   a. 2   c. 4
   b. 3   d. 6

13.   The measure of the external angle of a regular hexagon is:
a. $\dfrac{\pi}{2}$
b. $\dfrac{\pi}{3}$
c. $\dfrac{\pi}{4}$
d. $\dfrac{\pi}{6}$

14.   A 4cm long chord substand a central angle of 60°. The radial segment of this circle is:
   a. 1   b. 2   c. 3   d. 4

15.   The symbol for circle is:
   a. Δ   b. ☉   c. O^{ce} d. ⊥

Paper: _Maths_____   Total Marks: __60_____

Month Test: _November_____   Obt. Marks: _____

Theme/Unit: _5-13_____   Grand Total: __75_____

Subjective: ID: _____   Time: ____2hour10mins____

Name: _____   class: __10^th _____   Section: _____

Short Answers: /30

Q. No. 1:

   1) Find "a" and "b" if (3-2a, b-1) = (a-7, 2b + 5)

   2) Find Y*Y if Y = {-2, 1, 2}

   3) Find X – Y if X = {2, 4, 6, …….20}. Y= {4, 8, 12,…….24}

   4) Define standard deviation?

   5) Find arithmetic mean by Direct method (200, 225, 350, 375, 270, 320, 290)

   6) Find the range for the weight of students:

      110, 109, 84, 89, 77, 104, 74, 97, 49, 59, 103, 62

Q. No. 3:

   1) Find "r" when $\theta = 45°$, l= 56cm

   2) Convert $\frac{\pi}{5}$ radian to degree measure.

   3) Prove $(1- sin\theta)(1+ Sin\theta) = Cos^2\theta$

   4) Define acute angle.

   5) What is circum angle

   6) Differentiate between interior and exterior of a circle.

Q. No. 4:

   1) Find $tan\theta$ when $cos\theta = 9/41$ and θ terminal side of the angle θ is in fourth quadrant.

   2) The length of each side of a regular octagon is 3cm measure its perimeter

   3) Practically find the centre of an arc ABC

   4) Define circum angle

   5) Define vertices

   6) Define projection

Long Questions:

   1) a: If L = {x/x∈ $N \cap x \leq 5$}, M= {y/y ∈ $P^\wedge Y < 10$} then make the relation

      R_1 = {(x, y) / y<x} from L to M.   /4

      a: The length of 32 items is given below, find the mean length and standard deviation of the distribution.   /4

Length	20-22	23-25	26-28	29-31	32-34
Frequency	3	6	12	9	2

2) a: Verify $\frac{1+Sin\theta}{1-Sin\theta} . - \frac{1-Sin\theta}{1+Sin\theta}$ = 4tanθSecθ /4

  b: Draw two circles with radii 3.5 cm and 2cm. If there centers are 6cm apart then draw two transverse common tangents.   /4

3) Any two angles in the same segment of a circle are equal.   /8