AIMS PUBLIC SCHOOL

PRIMARY & SECONDARY Registered & Recognized

Class: 10th **Sub: Math's** **MM: 50**

Q 1. Fill in the blanks. **/10**

i. Right bisector of non-parallel …chord…… intersect at the center of the circle.

ii. Each interior angle of a regular hexagon is equal to……120……

iii. A circle which touches one side of triangle externally and two produced sides internally is …excir……

iv. If two circles of radii 5cm and 2cm touches each other internally then the distance between their centers is…3……

v. The union of two non-collinear rays at a common vertex is called……angle….

vi. $5\frac{\pi}{4}$ rad = ……225……. Deg.

vii. $\frac{1}{2}\sec 45^0$ =……

viii. $\cos ec\theta.\sin\theta =$ ……..

ix. $\sec^2\theta - \tan^2\theta =$ ……..

x. The system of measurement in which angle is measured is called……sexagesimal……

Q 2. In ΔABC, PQ || BC. Find x if AP = 5x – 3, PB = 2, AQ = 2x + 1 and QC = 3. **/5**

Q 3. Find remaining trigonometric functions **/5**

i. $\sin\theta = \frac{\sqrt{3}}{2}$ and θ lies is second quadrant.

Q 4. Prove the following **/5**

i. $\tan\theta = \sin\theta\sqrt{1+\tan^2\theta}$

ii. $\sqrt{\frac{\sec\theta+1}{\sec\theta-1}} = \frac{\sec\theta+1}{\tan\theta}$

Q5. An angle of elevation of the top of the cliff is 30°. Walking 210m from the point towards the cliff, the angle of elevation is 45°. Find the height of cliff. **/5**

Q 6. Draw a tangent to two unequal circles of radii 3.8cm and 2.2cm with centers A and B respectively whereas. **/5**

i. Circle touch externally OR ii. Circle touch internally

Q 7. Take a minor arc PQ. Draw a tangent to PQ through its midpoint A without using center. <u>OR</u> Take a major arc PQR. Draw a tangent to PQR through its end point Q without using center. **/5**

Q 8. Circumscribe a square about a circle of radius 4.2cm and with center at point C. <u>OR</u> Circumscribe a regular hexagon about a circle of radius 4.8cm with center at point O. **/5**

Q 9. Construct the ΔABC and draw its circumcircle. **/5**

i. AB = 5.5cm, AC = 6cm and $\angle A = 50^\circ$

<u>OR</u> Construct the ΔPQR and draw its incircle.

i. PQ = 5cm, QR = 6.5cm and RP = 5.5cm