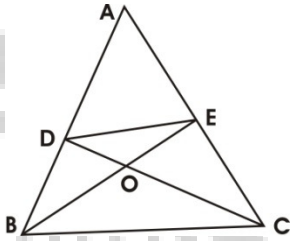
ENFANT INDIA ENGLISH SCHOOL **ASSIGNMENT – GEOMETRY**

Q1 Solve the following

1] A triangle ABC with sides AB=6cm, BC=12cm and AC=8cm is enlarge to ΔPQR such that its largest side is 18 cm. Find the ratio and Hence find the length of the remaining sides of ΔPQR.

2] In the adjoining figure DE|| BC and AD: DB = 5:4

Find I) DE: BC ii) DO: DC iii) A (Δ DOE): A(Δ DCE)



3] In ΔPQR seg PM is the median If PM =9and $PQ^2 + PR^2 = 290$.Find QR

Q2 Solve the following (Theorems)

1] If a line a parallel to a side of a triangle intersect the other side in 2 distinct points then the lines divides those sides in proportions.

2] In a Right angle triangle the square of hypotenuse is equal to the sum of the squares of the remaining two sides.

3] If the angles of a triangles are 30°, 60°and 90° then the sides opposite to 30° is half hypotenuse and the side opposite to 60° is √3/2 times the hypotenuse.

4] Prove that the quadrilateral formed by the angle bisector of a cyclic quadrilateral is also cyclic.

5] Prove that the sum of the squares of the diagonals of parallelogram is equal to the sum of the squares of its sides.

Q3 Solve the following (Constructions)

1] Draw perpendicular bisector of seg AB of length 8.3cm.

2] Draw an angle of 125° and bisect it .

3] Construct Δ LEM such that LE =6cm, LM=7.5cm, <LEM=90° and draw its circum circle.

4] Construct in circle of Δ SGN such that SG=6.7cm, <S=70°, <G=50°and draw in circle of ΔSGN.

5] Draw the circum circle and in circle of an equilateral triangle Δ ABC with sides 6.6cm.

Q4 Solve the following

1) If the terminals arm pases through (4,-7).Find all the trigonometric ratios.
2) If $x=a \sin\theta$, $y=b \tan\theta$ then prove that $a^2/x^2-b^2/y^2=1$.
3) $\tan\theta/\sec\theta +1 + \sec\theta+1/\tan\theta=2 \operatorname{cosec}\theta$

Q5 Solve the following

1) Show that (-2,1), (0,3),(2,1) and (0,-1) are the vertices of parallelogram.

2) Using Slop concept check whether the following points are collinear.

   i) A (7,8), B(-5,2) and C (3,6)

   ii) P(-2,3),Q(7,-4)and R(2,1)

4] The radii of the circular ends of a frustum of a cone are 14cm and 8cm. If the height of the frustum is 8cm. Find

   I) Curved surface area of frustum .
   II) Total surface area of the frustum.
   III) Volume of the frustum.