

**KENDRIYA VIDYALAYA AFS MANAURI**

**CLASS IX (MATHEMATICS)**

**Formative Assessment -3 (2016-17)**

**TIME- 90 Min**

**M.M 40**

All questions are compulsory.

**SECTION A (1 MARK EACH)**

1. Write standard form of linear equation in two variables.
2. At which point the linear equation  $3x+2y=6$  cuts the x- axis?
3. The consecutive angles of a parallelogram are .....
4. If P,Q,R are the mid points of AB,BC,AC of triangle ABC respectively then the ratio of area of triangle PQR to area of triangle ABC is -----
5. In a trapezium ABCD,  $AB \parallel CD$ , If  $\angle B = 60^\circ$ , find  $\angle C$ .

**SECTION B (2 MARKS EACH)**

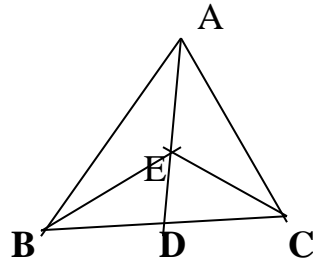
6. Write any two solutions of  $x+y=9$
7. Prove that a diagonal of parallelogram, divide it into two congruent triangles.
8. In a parallelogram ABCD, it is being given that  $AB=12\text{cm}$  and the altitude corresponding to the sides AB and AD are  $DL=5\text{cm}$  and  $BM=8\text{cm}$  respectively. Find AD
9. In triangle ABC,  $DE \parallel BC$  and D is midpoint of AB. Find the perimeter of triangle ABC when  $AE=4.5\text{ cm}$ ,  $BD=3.5\text{cm}$  and  $DE=5\text{cm}$

**SECTION C (3 MARKS EACH)**

10. Give the geometric representations of  $2x + 4=0$  as an equation  
(i) In one variable (ii) in two variables

11 .The angles of quadrilateral are in the ratio 3:5:9:13. Find all the angles of quadrilateral.

12. In figure, E is any point on the median AD of a Triangle ABC. Show that  $ar (ABE)= ar(ACE)$



13 AD is the median of  $\Delta ABC$ . E is mid point of AD. BE produced to meet AC at F. Show that  $AF=\frac{1}{3} AC$ .

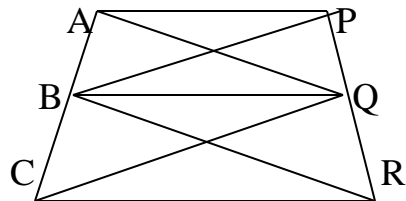
14 If E, F, G, and H are respectively the mid points of the sides of parallelogram ABCD, show that

$$Ar(EFGH)=\frac{1}{2} Ar(ABCD)$$

### SECTION D (4MARKS EACH)

15. Draw the graph of  $x+2y=6$  and from the graph, find the value of x when  $y=-6$

16 In fig. ,  $Ac \parallel BQ \parallel CR$ . Prove that  $ar(\Delta AQC) = ar(\Delta PBR)$



17. Prove that the line segment joining the mid- points of any two sides of a triangle is parallel to the third side.

