CLASS IX                    ASSIGNMENT: OCT – NOV
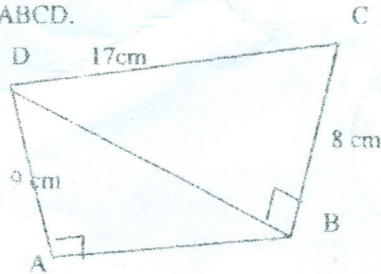
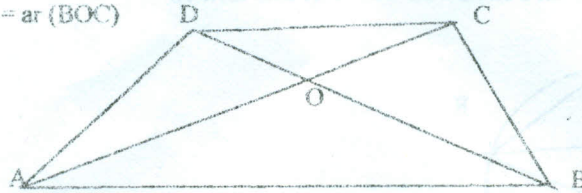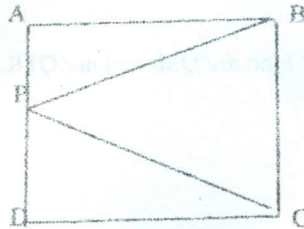MATHS                    ASSIGNMENT: 9-OCTOBER                    AREAS OF PARALLELOGRAMS
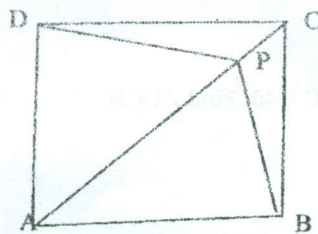
1. Calculate the area of quadrilateral ABCD.



2. In the given figure ABCD is a trapezium in which AB //DC and its diagonal AC and BD intersect at O.
   Prove that ar ($\triangle$AOD) = ar (BOC)
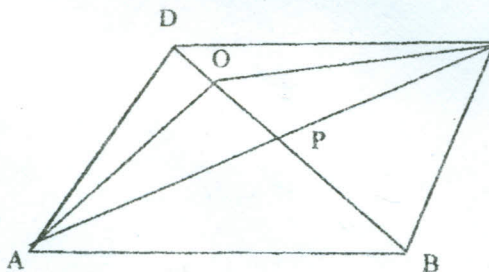


3. In the given figure ABCD is a parallelogram. If ar ($\triangle$BAP) = 10cm$^2$ and ar($\triangle$CPD) = 30cm$^2$ then find ar (parallelogram ABCD).



4. ABCD is a parallelogram. If PC: PA=1:3 and ar ($\triangle$BPC) = 16cm2 then find ar($\triangle$ADP).



5. In the given figure, O is any point on the diagonal BD of parallelogram ABCD. Prove that Ar ($\triangle$AOD) = ar($\triangle$COD)



6. AD is the median of $\triangle$ABC. If ar ($\triangle$ABD) = x cm$^2$ and ar ($\triangle$ABC) is y cm$^2$, find the relation between x and y.

7. In $\triangle$ABC, D and E are two points that trisect base BC. Show that ar($\triangle$ADE) = 1/3 ar ($\triangle$ABC)

8. ABCD is a rhombus whose one angle is 60$^0$. Prove that the ration of the lengths of its diagonal is $\sqrt{3}$ :1.

9. Prove that of all the parallelograms of which the sides are given rectangle has the greatest area.

10. Show that diagonal of a parallelogram divide it into 4 triangles of equal area.