

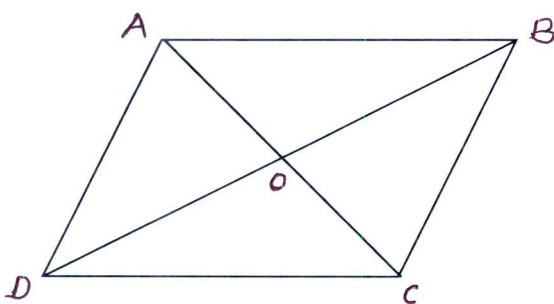
INTERNATIONAL INDIAN SCHOOL, RIYADH

Mathematics Work Sheet 2017-2018

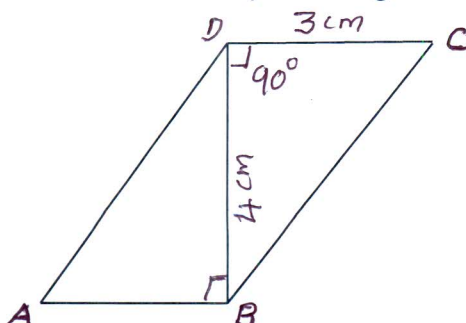
Ch -9 Areas of parallelograms and triangles

Class-IX

1. A triangle and a parallelogram are on the same base and between the same parallels then the ratio of the area of the triangle to that of the parallelogram is -----
2. Area of $\triangle ABC$ is 14 cm^2 . If AD is the median to side BC , find $\text{ar}(\triangle ACD)$.
3. $ABCD$ is a parallelogram with area as 12 cm^2 . If BD is one of the diagonals of $ABCD$, find $\text{ar}(\triangle ABD)$.
4. Prove that if a triangle and a parallelogram are on the same base and between the same parallels, then area of triangle = $\frac{1}{2}$ area of parallelogram.
5. $WXYZ$ is a parallelogram. E, F, G and H are respectively the midpoints of sides WX, XY, YZ and ZW . Show that $\text{ar}(EFGH) = \frac{1}{2} \text{ar}(WXYZ)$.
6. $ABCD$ is a quadrilateral with diagonals AC and BD intersecting at O . If $\text{ar}(\triangle DOC) = \text{ar}(\triangle AOB)$; Show that $\angle BDA = \angle DBC$.



7. $ABCD$ is a quadrilateral and BD is one of its diagonal as shown in the figure. Show that $ABCD$ is a parallelogram and find its area.



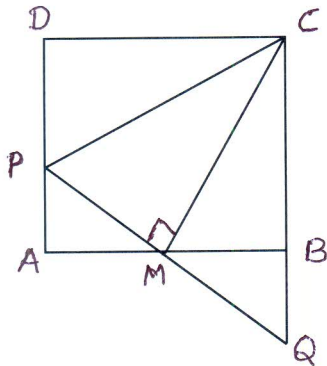
8. A man divides his rectangular plot of length 204m and width 106m into four equal triangular plots and gives each triangular plot to his four sons. The third son decides to build a Health Centre on his plot but falls short of money. The youngest one sells his plot and gives him the money. Answer the following questions.

i) What is the area of the rectangular plot?

ii) How could the rectangular plot be divided into equal triangular plots and what is the area of each plot?

iii) What value of the third son and the youngest son can be seen here?

9. ABCD is a square. M is the point on AB such that $AM = MB$. P and Q are points on sides AD and extended CB such that $CM \perp PQ$. Show that $\text{ar}(\triangle CPM) = \text{ar}(\triangle CQM)$.



10. ABCD is a quadrilateral. A line through D, parallel to AC, meet BC produced in P as shown in figure. Prove that $\text{ar}(\triangle ABP) = \text{ar}(\text{quad. ABCD})$.

