

International Indian School ---Riyadh

Work Sheet -- S A 2

Sub : Mathematics

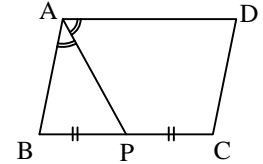
Class: IX

1) Perimeter of rectangle is 42 cm. Express this information in the form of a linear equation in 2 variables.

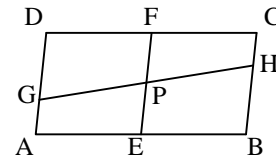
2) Find the value of 'a' so that $5x+2ay = 3a$ has a solution $(-4,1)$

3) Draw the graph of $2(x+1) = 3(y+1)$. From the graph find the value of y when $x = -\frac{3}{2}$

4) P is the mid point of the side BC of $\square ABCD$ such that $\angle BAP = \angle DAP$.
Prove that $AD = 2AB$



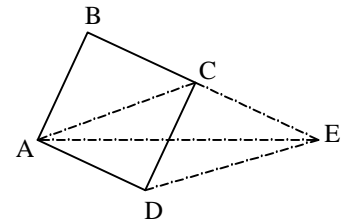
5) In trapezium ABCD, $AB \parallel DC$. E is the midpoint of AD and $EF \parallel AB$ where F lies on BC. Prove that $AB + CD = 2EF$



6) In the figure ABCD is a parallelogram in which E & F are the midpoints of AB & CD. If GH is a line segment that cuts AD, EF and BC at G, P & H respectively, Prove that $GP = PH$.

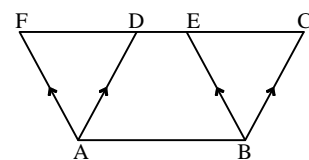
7) In a $\square PQRS$, $SM \perp PQ$ and $QT \perp SP$. If $ar(\square PQRS) = 48 \text{ cm}^2$, $PQ = 8 \text{ cm}$ and $PS = 3 \text{ cm}$, find SM and QT.

8) In quadrilateral ABCD, a line through D parallel to AC meets BC produced at E. Prove that $ar(\triangle ABE) = ar(\text{quad. ABCD})$

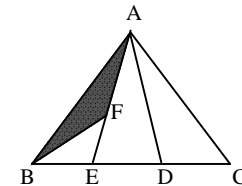


9) Given $ar(\square ABCD) = 90 \text{ cm}^2$. Find,

- i) $ar(\square ABEF)$ ii) $ar(\triangle ABD)$ iii) $ar(\triangle BEF)$

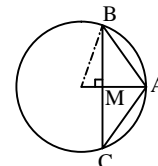


10) In the figure D, E & F are respectively the midpoints of BC, BD and AE of $\triangle ABC$. Prove that $ar(\triangle ABF) = \frac{1}{8} ar(\triangle ABC)$



11) Given three non collinear points A, B & C. Prove that there is one and only one circle passes through A, B & C.

12) In a circle of radius 5 cm. AB & AC are two chords such that $AB = AC = 6 \text{ cm}$. Find the length of the chord BC.



13) Two chords AB & CD of a circle with center O intersect at E. If $\angle OEA = \angle OED$. Prove that $AB = CD$.

