National Institute of Open Schooling (NIOS)
Secondary Course
Lesson –12: Concurrent Lines
Worksheet – 12

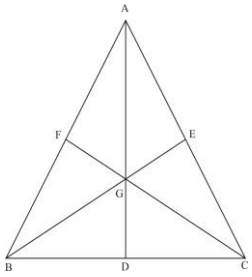
1. Differentiate between Incentre and Circumcentre of triangle with an example.

2. In a triangle ABC, the medians AD, BE and CF intersect at G. Prove that BE + CF > $\frac{3}{2}$ BC.

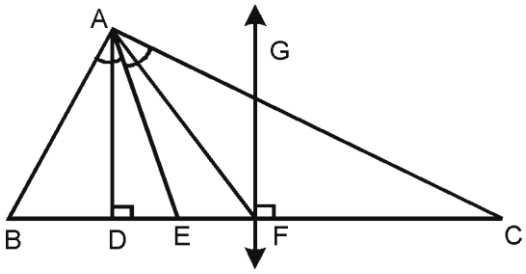
3. If the bisectors of angles $\angle B$ and $\angle C$ of a triangle ABC meet at a point O, then prove that $\angle BOC = 90^0 + \frac{1}{2}\angle A$

4. Differentiate between Orthocentre and Centroid of triangle with an example.

5. In ΔABC the medians AD, BE and CF pass through G. If BG = 6 cm, then find BE?



6. In the given figure BF = FC, $\angle$BAE = $\angle$CAE and $\angle$ADE = $\angle$GFC = 90^0 then name a median, an angle bisector, an altitude and a perpendicular bisector of the Δ.



7. Prove that the sum of the three angles of any triangle is equal to 180^0
8. If the medians AD, BE and CF of ΔABC meet at G, prove that G is the centroid of ΔDEF also.
9. ABC is a triangle in which P, Q and R are mid points of the sides AB, BC and CA respectively. If AB = 8 cm, BC = 7 cm and CA = 6 cm, find the perimeter of DPQR.
10. Draw an equilateral triangle. Find its Incentre ,circumcentre and its incircle and circumcircle.