

## Geometry Theorems and results:

- ❖ The term cevian comes from the name of Italian engineer Giovanni Ceva, who proved a well known theorem about cevians.
- ❖ In 1686, Ceva was designated as the professor of Mathematics, University of Mantua and worked there for the rest of the life. In 1678, he published an important theorem on synthetic geometry for a triangle called Ceva's theorem
- ❖ Ceva also rediscovered and published in the Journal Opuscula mathematica and Geometria motus in 1692. He applied these ideas in mechanics and hydraulics
- ❖ The cevians do not necessarily lie within the triangle, although they do in the diagram
- ❖ Menelaus was a Greek mathematician who lived during the Roman empire in both Alexandria and Rome during first century CE. His work was largely on the geometry of spheres.
- ❖ Menelaus theorem was first discussed in his book, sphaerica and later mentioned by Ptolemy in his work Almagest
- ❖ Menelaus theorem proves that spheres are made up of spherical triangles
- ❖ Menelaus theorem can also be given as  $BP \times CQ \times AR = -PC \times QA \times RB$ .
- ❖ If  $BP$  is replaced by  $PB$  (or)  $CQ$  by  $QC$  (or)  $AR$  by  $RA$ , or if any one of the six directed line segments  $BP, PC, CQ, QA, AR, RB$  is interchanged, then the product will be 1.
- ❖ Centroid is the point of concurrence of the medians.