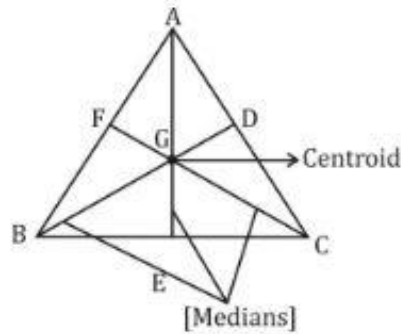


Geometry | Triangle

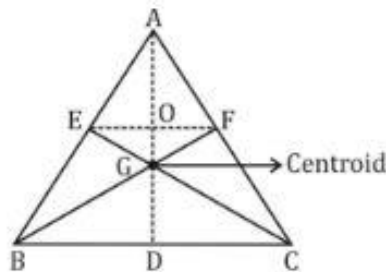
1). Centroid : [Intersecting Point of Medians] / केन्द्रक: माध्य का अंतर्बिंदु



- Centroid divides median of a triangle in ratio 2 : 1 / केन्द्रक एक त्रिभुज के मध्य को 2:1 के अनुपात में विभाजित करता है

$$\begin{aligned} \rightarrow \frac{AG}{GE} &= \frac{2}{1} \\ \rightarrow \frac{AG}{AE} &= \frac{2}{3} \\ \rightarrow \frac{GE}{AE} &= \frac{1}{3} \end{aligned}$$

- area $\Delta ABE = \frac{1}{2}$ area ΔABC
- area $\Delta AGB = \frac{1}{3}$ area ΔABC
- area $\Delta AGF = \frac{1}{6}$ area ΔABC



- $AO = OD$
- $OG = \frac{1}{3} AO$
- $AB^2 + BC^2 = 2BD^2 + \frac{1}{2} AC^2$
- $AB^2 + AC^2 = 2AE^2 + \frac{1}{2} BC^2$
- $CA^2 + CB^2 = \frac{1}{2} AB^2 + 2 FC^2$

BILINGUAL

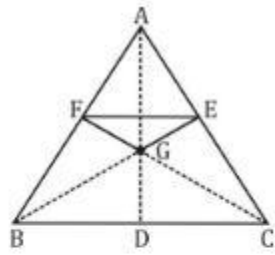
Validity 12 Months



TEACHING PRIME

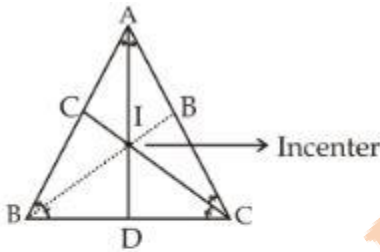
CTET | UPTET | DSSSB | UGC

300+ Tests



- Area $\Delta FGE = \frac{1}{12}$ area ΔABC
- $3 \times (\text{sum of side square}) = 4x (\text{sum of median square})$
 $3 \times (AB^2 + BC^2 + AC^2) = 4x (AE^2 + BD^2 + CF^2)$
- area $\Delta ABC = \frac{4}{3}$ area Δ (Formed by taking AD, BF, CE, as sides of a triangle)

2). Incenter \rightarrow [Intersecting Point of Internal angle bisector] / अन्तः केन्द्र \rightarrow [आंतरिक कोण द्विभाजक का प्रतिच्छेदन बिंदु]

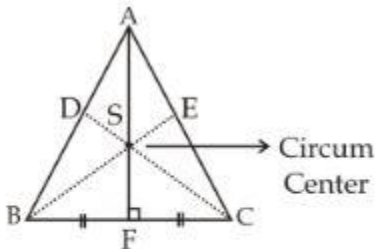


$$\rightarrow \angle BIC = 90^\circ + \frac{\angle A}{2}$$

$$\rightarrow IB = \text{Inradius, } r = \frac{\text{area } \Delta ABC}{S}$$

$$\rightarrow AI : ID = b + c : a$$

3). Circumcenter \rightarrow [Intersecting point of Perpendicular bisector] / परिकेंद्र : [लम्बवत द्विभाजक का प्रतिच्छेदन बिंदु]



$$\angle BSC = 2\angle A$$

$$SB = \text{circumradius, } R = \frac{abc}{4 \times \text{area } \Delta ABC}$$

adda247 publications

STUDY NOTES
For Child Pedagogy
E-BOOK

CTET | STET |
Other Teaching
Exams

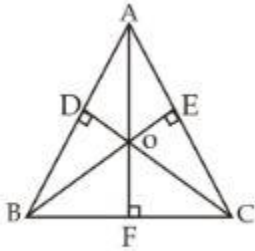
₹199

IN ASSOCIATION WITH

teachersadda.co.in | bankersadda.com | CAREERPOWER | scadda.com

4). Orthocenter: → [Intersecting Point of Altitudes] /

लंब केंद्र: → [ऊँचाई का प्रतिच्छेदन बिंदु]



$$\angle BOC = 180 - \angle BAC$$

Important Points: -

(a) Orthocenter of right angled triangle ⇒ at right angled vertex (समकोण त्रिभुज का लंब केंद्र ⇒ समकोण के शीर्ष पर)

(b) Circumcenter of right angled triangle ⇒ Mid-point of Hypotenuse / समकोण का परिकेंद्र ⇒ मध्य बिंदु का कर्ण

(c) Distance b/w incenter & circumcenter of a triangle / एक त्रिकोण के आंतरिक और परिव्रिज्या के मध्य की दूरी

$$= \sqrt{R^2 - 2rR} \quad \left[\begin{array}{l} R = \text{circumradius} \\ r = \text{incenter} \end{array} \right]$$

(d) In Equilateral triangle / समबाहु त्रिभुज में,

$$R = 2r,$$

Circum Radius : Inradius

$$2 : 1$$

24 Months Subscription

**TEACHERS
SUPREME**

All Teachers Video Courses



teachersadda.com