



### MATHS

# BOOKS - VIDHYASANGAM - RAO'S ACADEMY MATHS (KANNADA ENGLISH)

## TRIANGLES

Exercise 51

**1.** In right triangle ABC, right angled at C, M is the mid-point of hypotenuse AB. C is joined to M and produced to a point D such that DM = CM. Point D is joined to point B. Show that (i)  $\triangle AMC \cong \triangle BMD$ (ii)  $\angle DBC$  is a right angle. (iii)  $riangle DBC \cong riangle ACB$ 







#### Exercise 5 3

1. Two sides AB and BC and median AM of one triangle ABC are respectively equal to sides PQ and QR and median PN of  $\Delta$  PQR. Show that

 $\Delta ABM\cong \Delta PQN$ 

(ii)  $\Delta ABC\cong \Delta PQR$ 





**2.** BE and CF are two equal altitudes of a triangle ABC. Using RHS congruence rule, prove that the triangle ABC is isoscles.



#### **3.** ABC is an isosceles triangle with AB = AC.

Draw AP  $\perp$  BC to show that A = B.

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1. Show that in a right angled triangle, the

hypotenuse is the longest side.

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#### **2.** In Pr > PQ and PS bisects $\angle QPR$ . Prove

that  $\angle PSR > \angle PSQ$ 



**3.** Show that of all line segments drawn from a given point not on it, the perpendicular line segment is the shortest.

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**1.** ABC is a triangle . Locate a point in the interior of  $\triangle ABC$  which is equidistant from all the vertices of  $\triangle ABC$ .







**2.** In a triangle, locate a point in its interior of which is equidistant from all the sides of triangle.





**3.** In a huge park, people are concentrated at three points.

A: where there are different slides and swings for children.

B: Near which a man-made lake is situated.

C: which is near to a larger parking and exit.

Where should an ice-cream parlour be set up

so that maximum number of persons can approach it?

(Hint: The parlour should be equidistant from

#### A,B and C.)



**4.** Complete the hexagonal and star shaped Rangolies, By filling them with as many equilateral triangles of side 1 cm as you can. Count the number of triangles in each case.

#### Which has more triangles.



