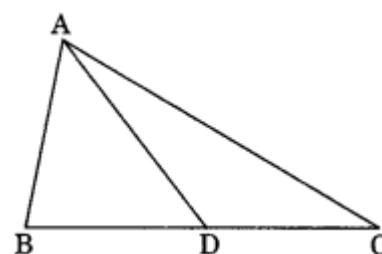


- Draw rough sketches for the following:
  - In  $\Delta PQR$ , PA is the median of the triangle.
  - In  $\Delta PQR$ , PA and RM are the altitudes of the triangle.
  - In  $\Delta XYZ$ , YL is an altitude in the exterior of the triangle.
  - In  $\Delta ABC$ , AD is the median and altitude of the triangle.
- How many altitudes can a triangle have? Justify your answer.
- Two sides of a triangle are 4 cm and 7 cm. What can be the length of its third side to make the triangle possible?
- If exterior angle of a triangle is  $130^\circ$  and its interior opposite angles are equal, find the measure of each interior opposite angle.
- Can  $40^\circ$ ,  $132^\circ$  and  $18^\circ$  be the angles of a triangle? Justify.
- If one angle of a triangle is  $60^\circ$  and the other two angles are in the ratio 1:2, find the angles.
- In  $\Delta ABC$ , the measure of  $\angle A$  is  $40^\circ$  less than the measure of  $\angle B$  and  $50^\circ$  less than that of  $\angle C$ . Find the measure of  $\angle A$ ,  $\angle B$  and  $\angle C$ .
- The sides of a triangle are 10 cm, 6cm and  $x$ . Find the minimum value of  $x$ .
- Riya walks 6 km due east and then 8 km due north. How far is she from her starting place?
- Find the perimeter of a rectangle whose length is 60 cm and a diagonal is 61 cm.
- Find perimeter of a right-angled triangle ABC, whose longest side is  $(x + 2)$  cm and other two sides are  $x$  cm and 6 cm.
- A plane flies 320 km due west and then 240 km due north. Find the shortest distance covered by the plane to reach its original position.
- AD is the median of a  $\Delta ABC$ , prove that  $AB + BC + CA > 2AD$



- In the following figure, find the unknown angles a and b, if  $l \parallel m$ .

