

Triangles

February 16, 2023

9th Maths - Chapter 7

1. In an isosceles triangle ABC , with $AB = AC$, the bisectors of $\angle B$ and $\angle C$ intersect each other at O . Join A to O . Show that :
 $OB = OC$ AO bisects $\angle A$
2. In $\triangle ABC$, AD is the perpendicular bisector of BC . Show that $\triangle ABC$ an isosceles triangle in which $AB = AC$.
3. ABC is an isosceles triangle in which altitudes BE and CF are drawn to equal sides AC and AB respectively. Show that these altitudes are equal.
4. ABC is a triangle in which altitudes BE and CF to sides AC and AB are equal. Show that $\triangle ABE \cong \triangle ACF$ $AB = AC$, i.e., ABC is an isosceles triangle
5. ABC and DBC are two isosceles triangles on the same base BC . Show that $\angle ABD = \angle ACD$.
6. $\triangle ABC$ is an isosceles triangle in which $AB = AC$. Side BA is produced to D such that $AD = AB$. Show that $\angle BCD$ is a right angle.
7. ABC is a right angled triangle in which $\angle A = 90^\circ$ and $AB = AC$. Find $\angle B$ and $\angle C$.
8. Show that the angles of an equilateral triangle are 60° each.

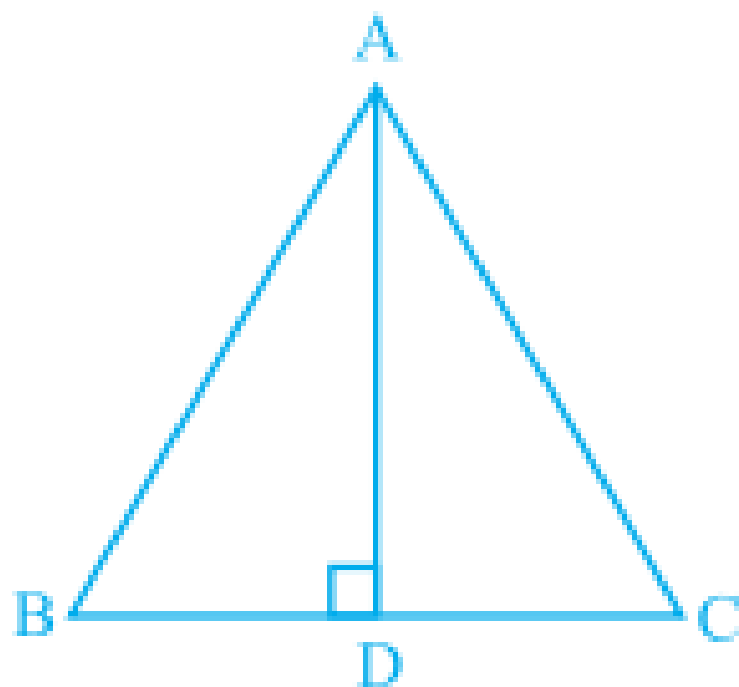


Figure 1:

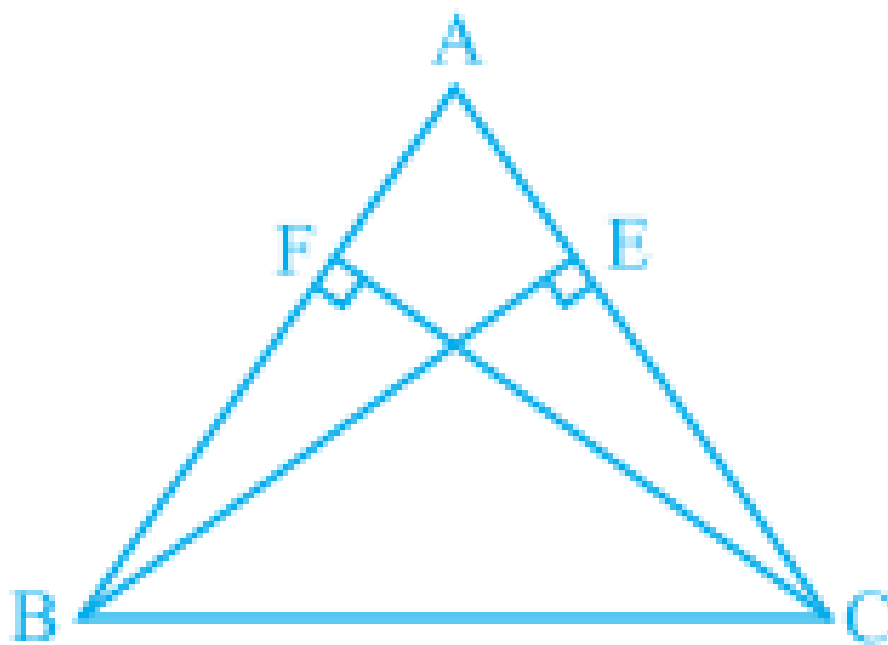


Figure 2:

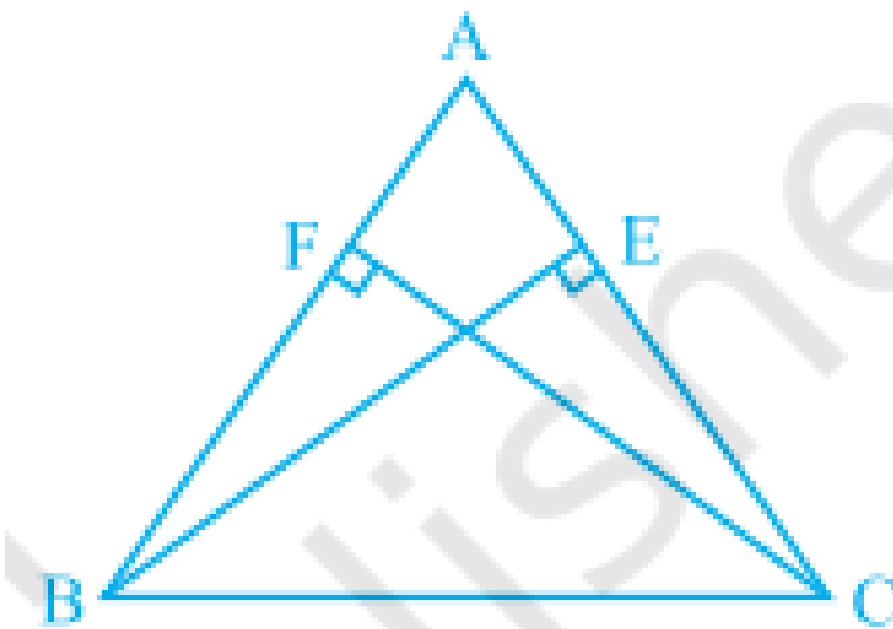


Figure 3:

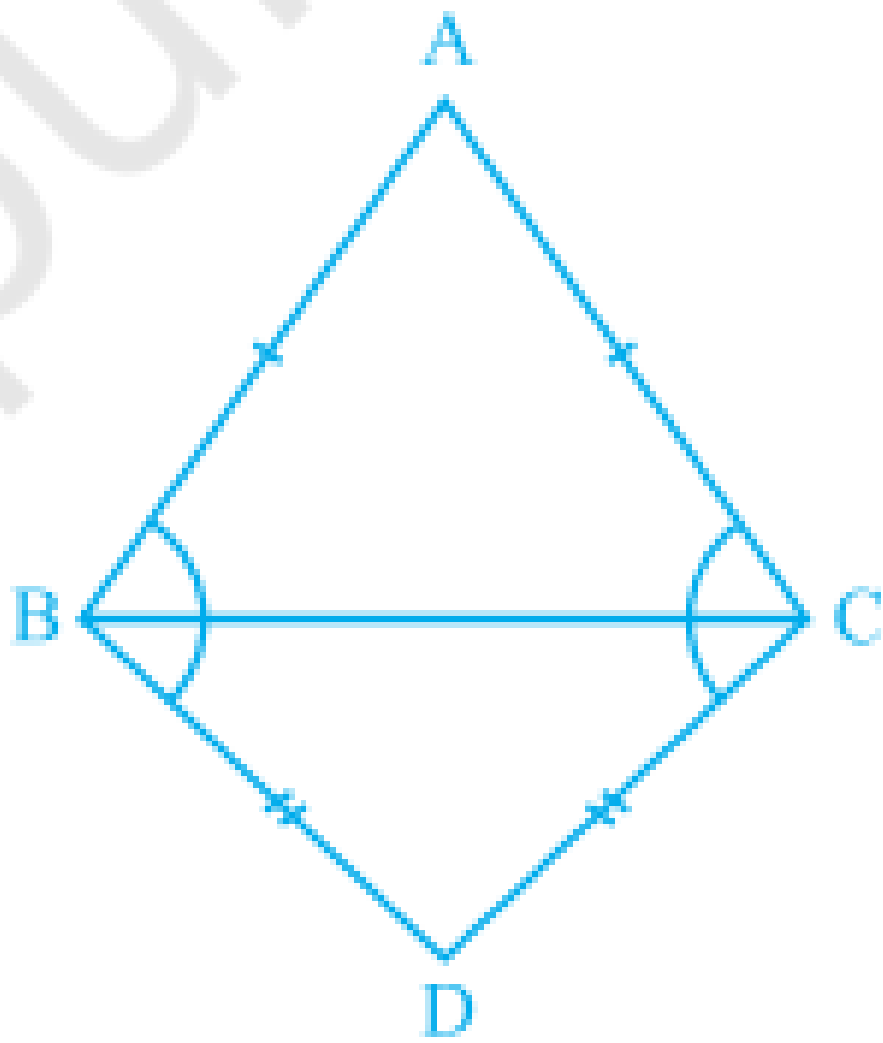


Figure 4:

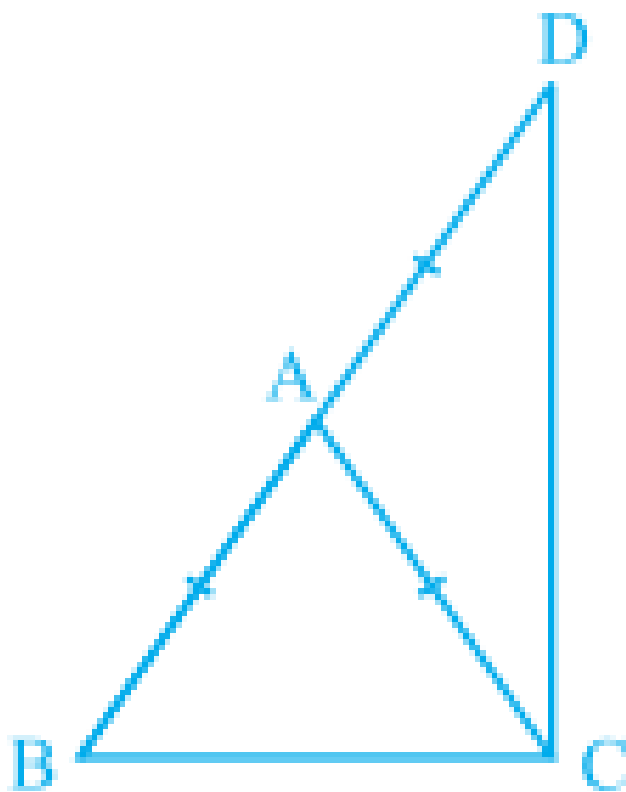


Figure 5: