

9th CBSE Math

07 .TRIANGLES

Lecture 1

GORRELA SAMPATH DIKSHIT



M-100, S-97

ANSH VERMA



M-99, S-96

TWO WEEKS OF FREE TRIAL CLASSES

GUARANTEED RESULTS WITHIN 3 MONTHS

100% REFUND IF WILLING TO DISCONTINUE WITHIN 3 MONTHS

V HASNI



M-96, S-94

PON RAAGAVI S



M-94, S-91

6th - 10th - M & S

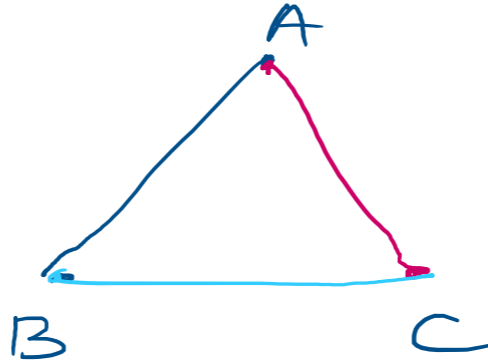
**GATE Qualified & ex-BYJU'S Academic Specialist , alumna of
Anna University, CEG Campus, Chennai**

Triangle

A simple closed figure made up of three line segments.

A triangle has

- Three vertices A, B, C
- Three sides AB, BC, AC
- Three angles ($\angle A, \angle B, \angle C$)

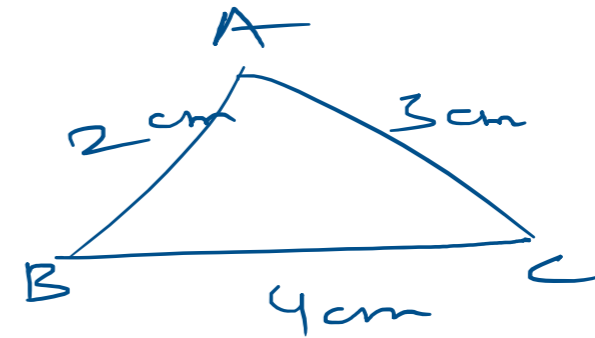


Triangle ABC
($\triangle ABC$)

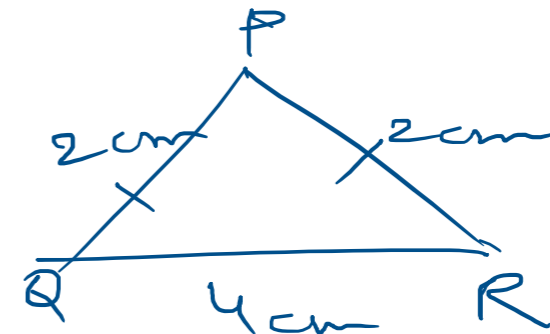
Classification of triangles

• Based on sides

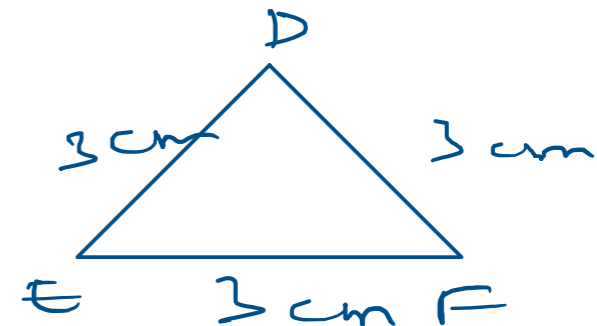
a. Scalene triangle
(none of the sides are equal)



b. Isosceles triangle
(any two sides are equal)

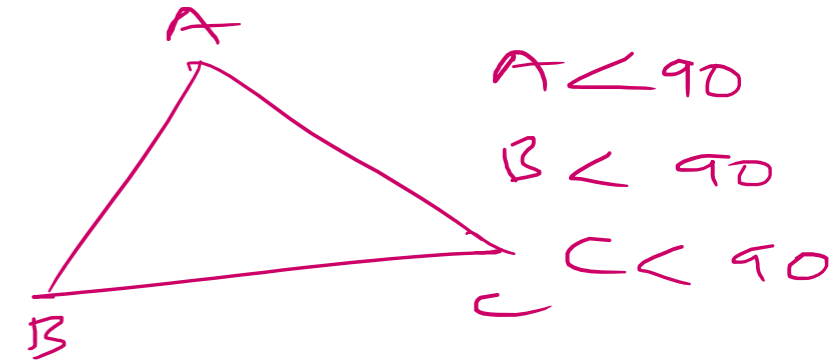


c. Equilateral triangle
(all the sides are equal)

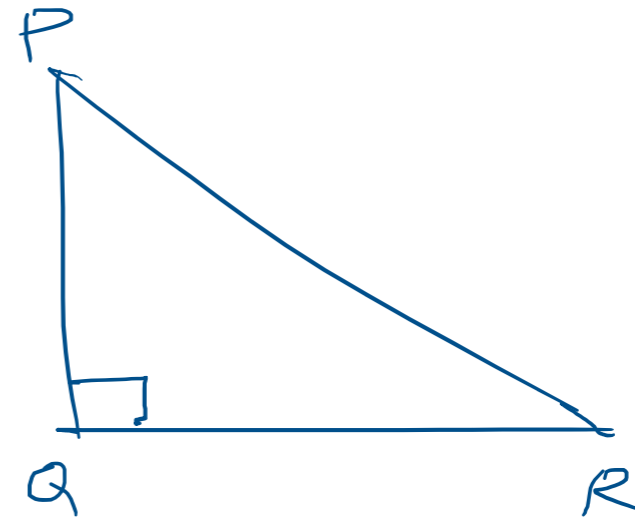


Based on angles

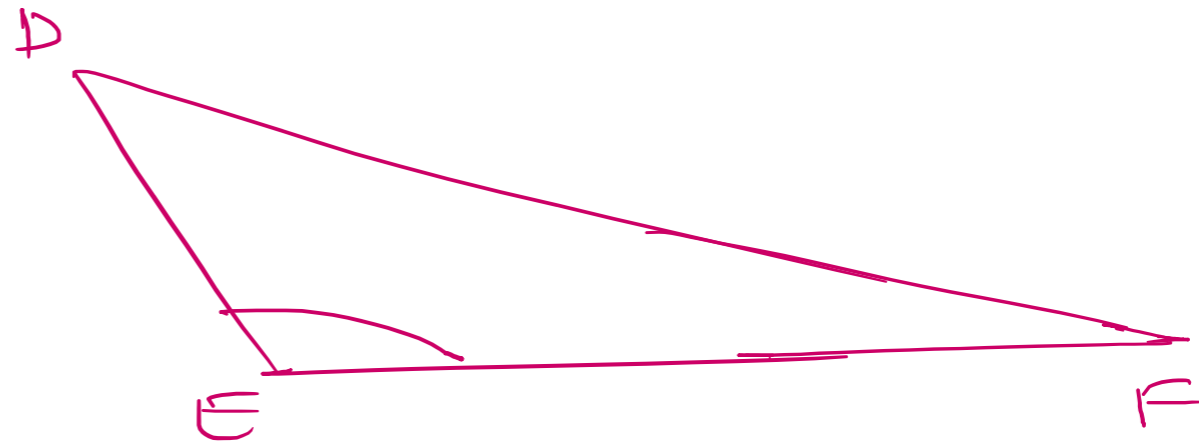
(i) Acute angled triangle
(all the angles are less than 90°)



(ii) Right angled triangle
one of the angles is 90°



(iii) Obtuse angled triangle
one of the angles
is more than 90°

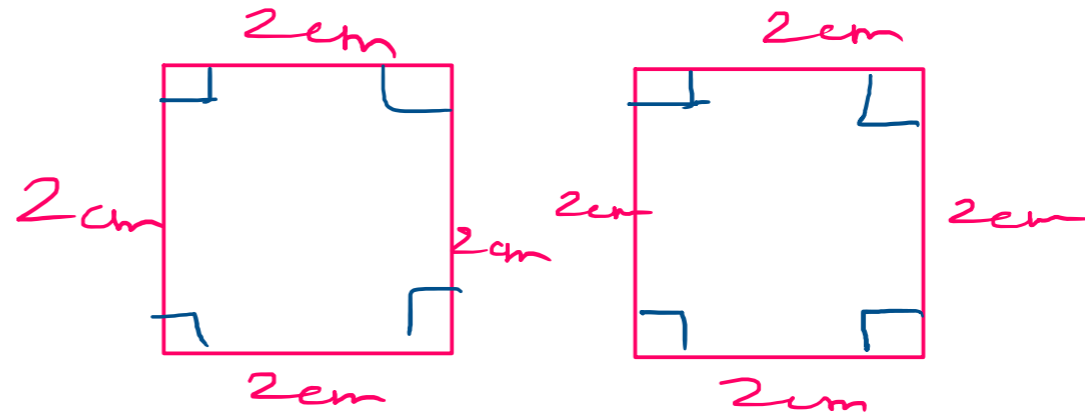


Congruent of figures

→ Same shape & same size

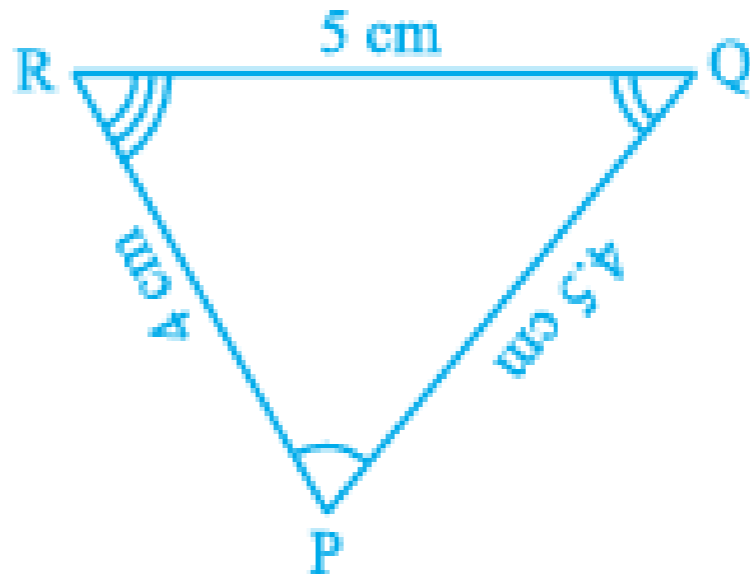
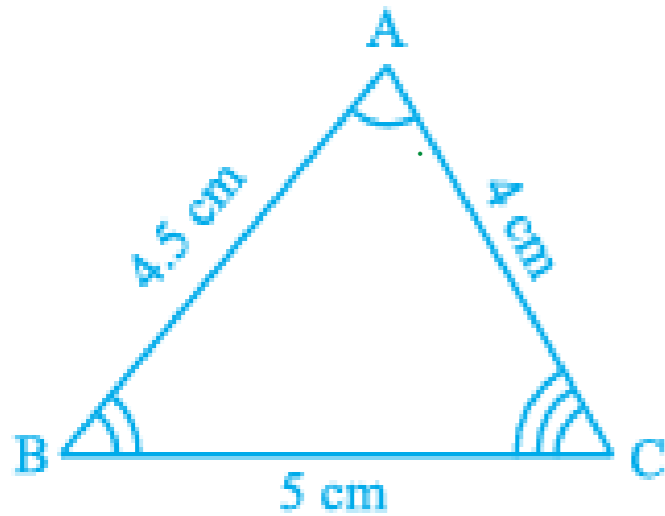
↓
Same angles

↓
sides are of equal length

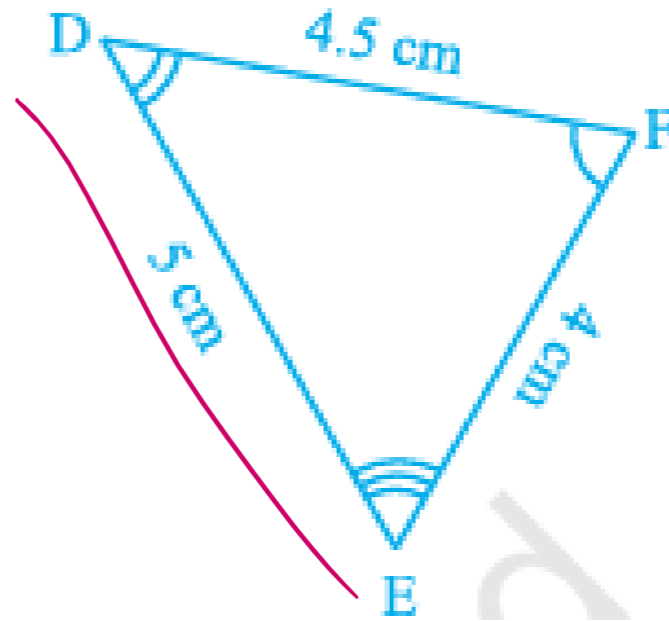
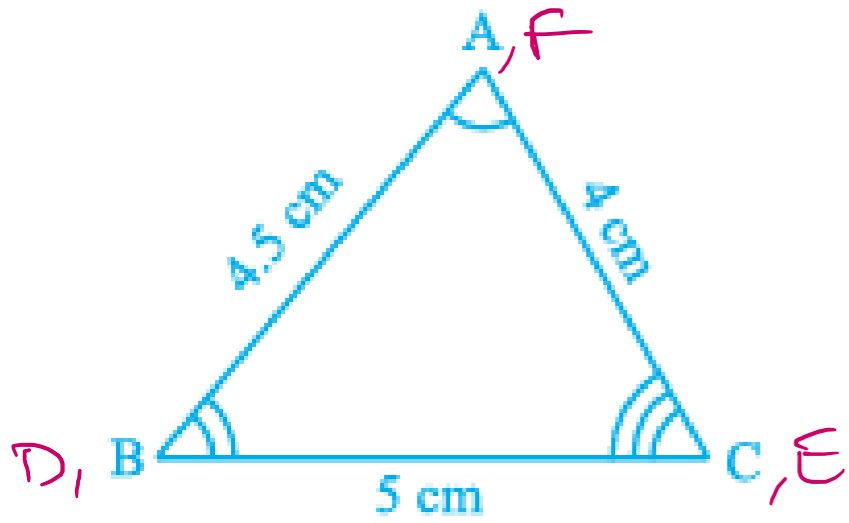


Congruency of Triangles

→ Same shape & same size



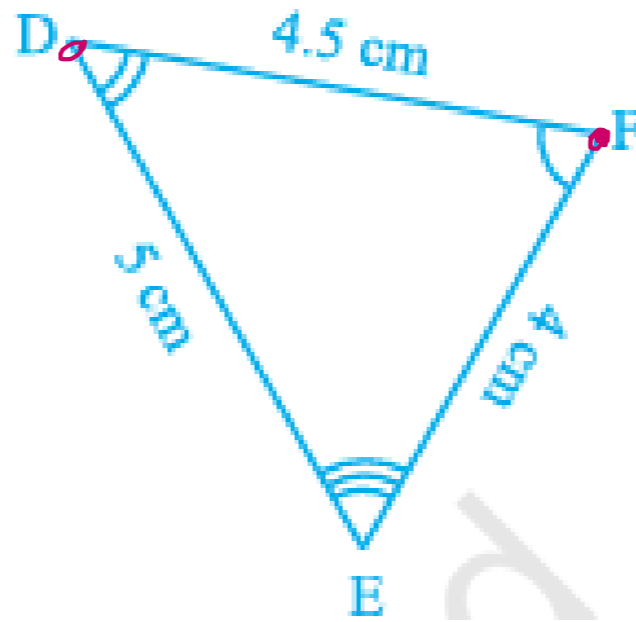
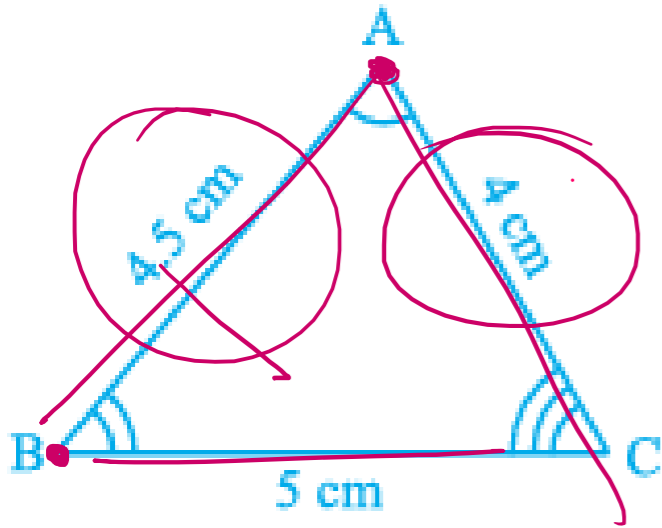
$$\triangle ABC \cong \triangle PQR$$



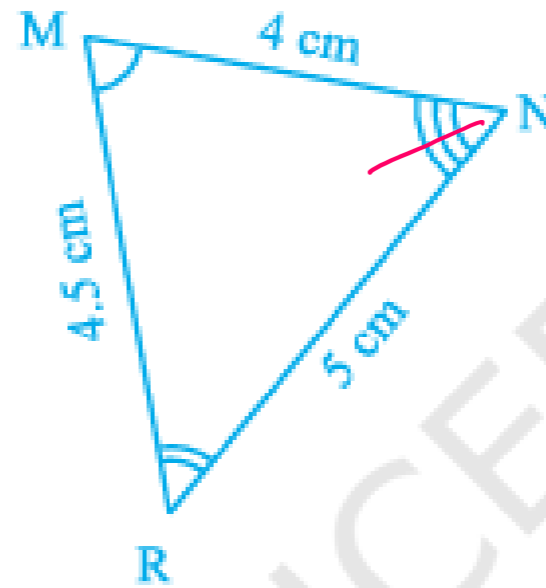
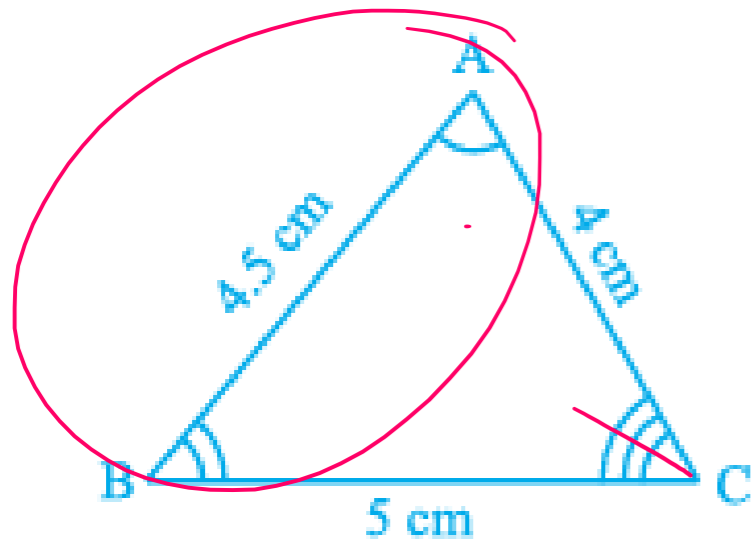
Y Z

$\triangle ABC \cong \triangle DEF$

$\angle A = \angle D$		$AB = DE$
$\angle B = \angle E$		$BC = EF$
$\angle C = \angle F$		$AC = DF$



$\triangle ABC \cong \triangle FDE$



Sides opposite to equal angles are called corresponding sides.
 Angles " " equal sides are " " angles

$\triangle ABC \cong \triangle MNR$

$$\angle A = \angle M$$

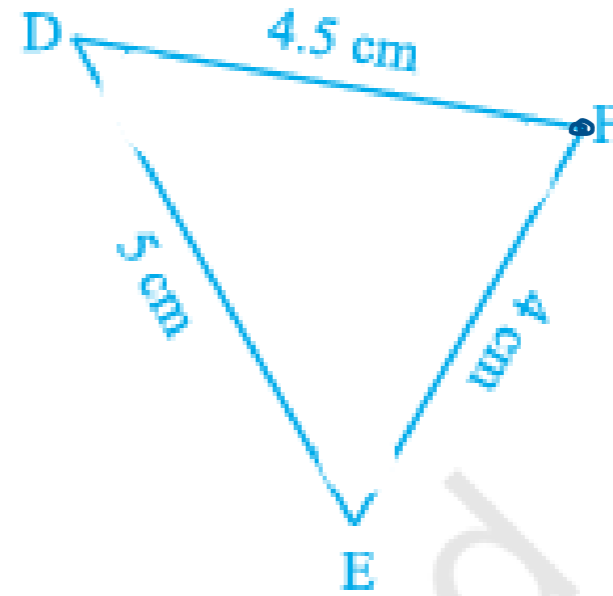
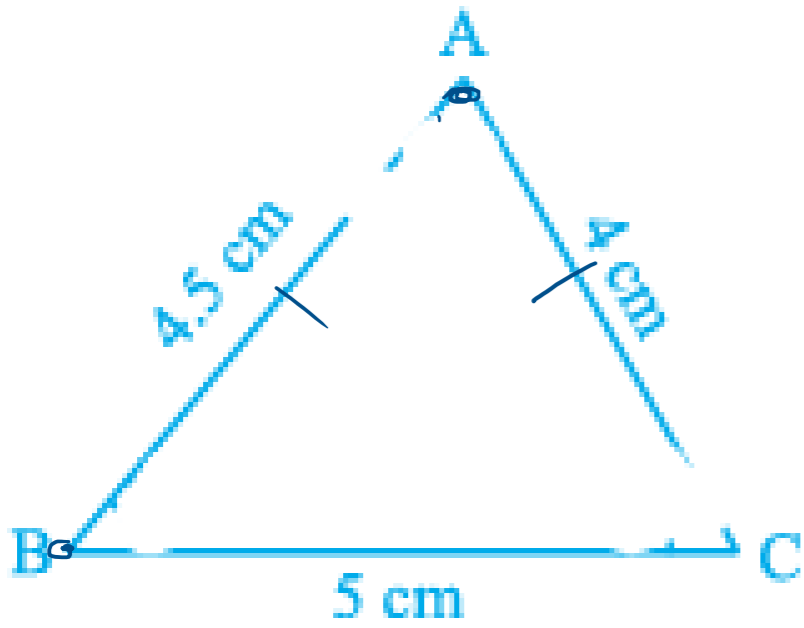
$$\angle B = \angle R$$

$$\angle C = \angle N$$

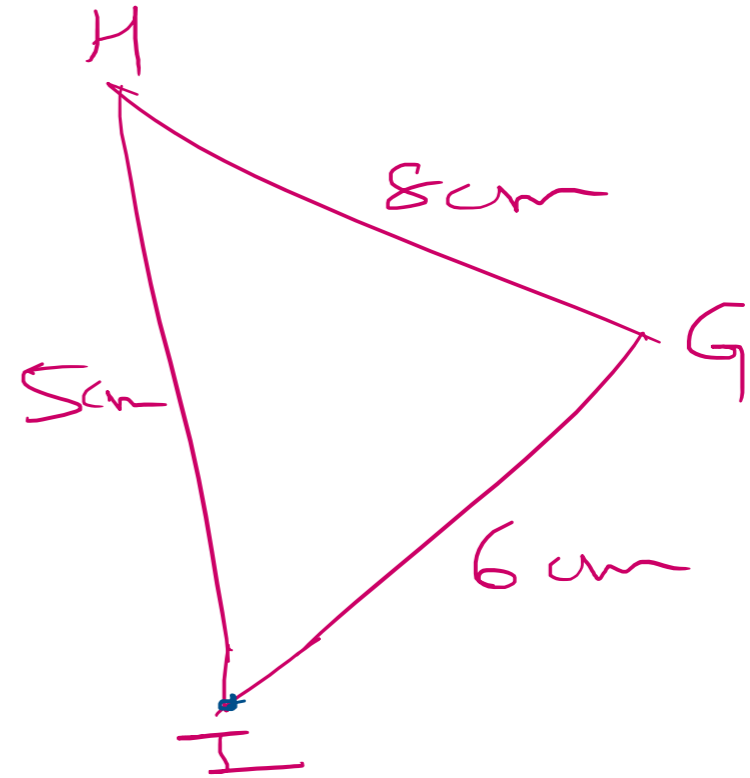
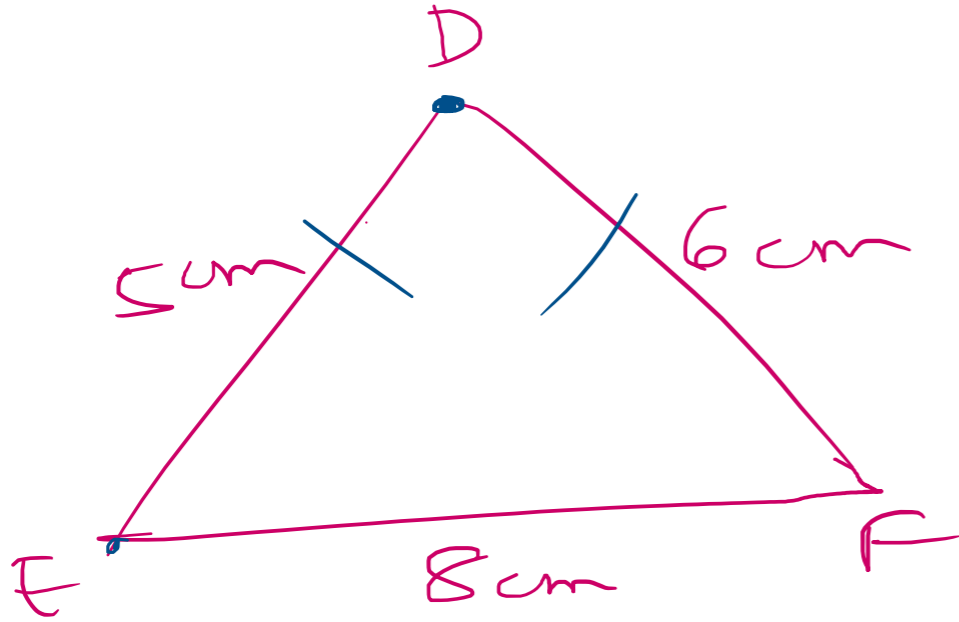
$$AB = MR$$

$$BC = RN$$

$$AC = MN$$



$$\triangle ABC \cong \triangle FDE$$



$$\triangle DEF \cong \triangle HIG$$
