



## Department of Education in Sabaragamuwa – Weekly School

Subject : Mathematics

5<sup>th</sup> week

Grade 10

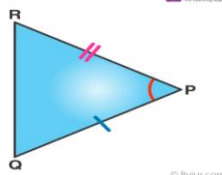
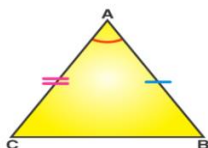
Translated by: U.V.S.S.Gunathilaka , Kg/ Dehiowita  
National School

### Congruence of Triangles

**Competency** : Makes decisions regarding day to day activities based on geometrical concepts related to rectilinear plane figures.

**Competency Level** : Investigates the requirements for two triangles to be congruent.

01. Describe what are the elements of a triangle.
02. Describe what is the congruence of triangles.
03. What are the 4 cases of congruence of triangles.
04. Fill in the blanks by observing the figure.



AC = .....

..... = PQ

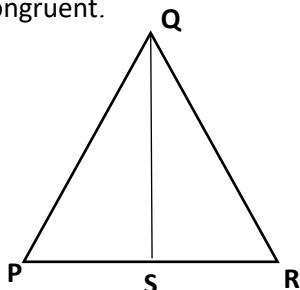
$\angle A = \angle R$

$\therefore \triangle ABC \cong \triangle PQR$  (.....)

:

PQRQ in the triangle PQR.

The bisector of the angle  $\hat{Q}$  meets side PR at S. Show that the triangles PQS and QRS  $\Delta$  are congruent.



In the triangles PQS and QRS  $\Delta$ ,

$PQ = QR$  (Data)

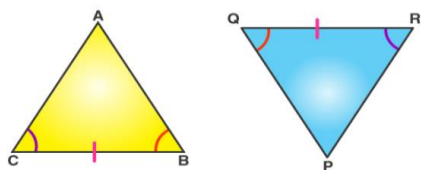
$QS = QS$  (.....)

$\angle PQS = \angle RQS$  (.....)

$\therefore \triangle PQS \cong \triangle QRS$  (.....)

- Do the Exercise 5.1 in your text book.

05. Fill in the blanks by observing given triangles.



$BC = \dots\dots\dots$

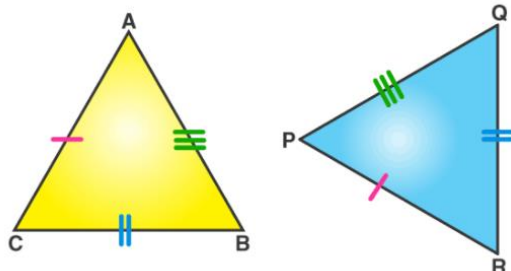
$\dots\dots\dots = R\hat{Q}P$

$A\hat{C}B = \dots\dots\dots$

$\therefore ABC \Delta \equiv PQR \Delta (\dots\dots\dots)$

- Do the Exercise 5.2 in your text book.

06. Fill in the blanks by observing given triangles.



$AC = \dots\dots\dots$

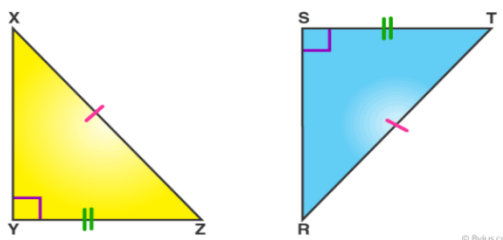
$\dots\dots\dots = PQ$

$CB = \dots\dots\dots$

$\therefore ABC \Delta \equiv PQR \Delta (\dots\dots\dots)$

- Do the Exercise 5.3 in your text book .

07. Fill in the blanks by observing given triangles.



$X\hat{Y}Z = T\hat{S}R = \dots\dots\dots$

$\dots\dots\dots = ST$

$XZ = \dots\dots\dots$

$\therefore XYZ \Delta \equiv TSR \Delta (\dots\dots\dots)$

- Do the Exercise 5.4 in your text book .

08. For each of the following parts, draw a sketch of the relevant pairs of triangles based on the information that is given. From these pairs, select the ones that are congruent (if there are any) and write down the remaining pairs of corresponding elements which are equal to each other.

i. In the triangles  $PQR$  and  $ABC$  ,  $PQ = AB, QR = BC, P\hat{Q}R = A\hat{B}C$

ii. In the triangles  $DEF$  and  $XYZ$  ,  $DE = XY, E\hat{D}F = Y\hat{X}Z, D\hat{E}F = X\hat{Y}Z$

iii. In the triangles  $KLM$  and  $CDE$   $\hat{L} = \hat{D} = 90, KM = CE, KL = DE$

09. In the given figure,  $AB \parallel CD$  and  $AB = CD$ . Mark the given data on the figure.

Show that  $\triangle ABO \cong \triangle CDO$ .

