

# MATHEMATICS

## MATHEMATICS

Class-7th

Chapter-7

Congruence of  
Triangles

Solution of  
Exercise-7.2

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Mathematics

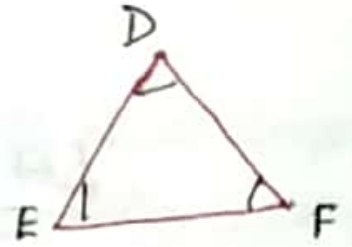
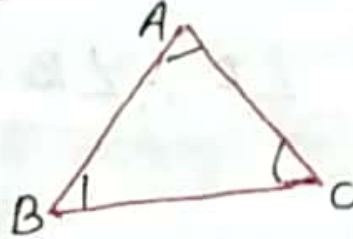
Class - VII

Ch: 07, 'Congruence of triangles'

'Ex - 7:2'

Q.1. Sol.

In  $\triangle ABC$  and  $\triangle DEF$ ,



Given that,

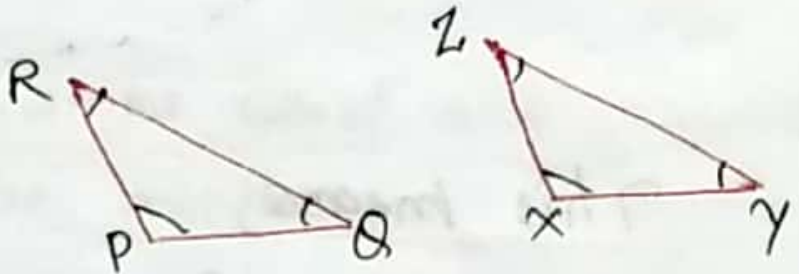
$$\frac{AC = DF}{AB = DE}$$
$$\frac{BC = EF}{BC = EF}$$

So,  $\triangle ABC \cong \triangle DEF$  ✓

By SSS congruence criterion.

Q.2. Sol.

In  $\triangle RPQ$  &  $\triangle ZXY$ ,



Given that,

$$\frac{RP = ZX}{RQ = ZY}$$

and  $\frac{\angle PRQ = \angle XZY}{\angle PRQ = \angle XZY}$

So,  $\triangle RPQ \cong \triangle XZY$  ✓

By SAS congruence criterion, they are congruent to each other.

Q.3. Sol.



In  $\triangle LMN$  &

$\triangle GFH$ , Given that,

$$\frac{ML = FG}{}$$

$$\frac{\angle MLN = \angle FGH}{}$$

$$\frac{\angle NML = \angle GFH}{}$$

So,  $\triangle LMN \cong \triangle GFH$ , ✓

By ASA Congruence Criterion.

Q.4. Sol.

In  $\triangle ABE$  &

$\triangle CDB$ ,

Given that,

$$\frac{EB = DB}{}$$

$$\frac{AE = BC}{}$$

$$\frac{\angle A = \angle C = 90^\circ}{}$$

So,  $\triangle ABE \cong \triangle CDB$ , ✓

By RHS Congruence criterion.

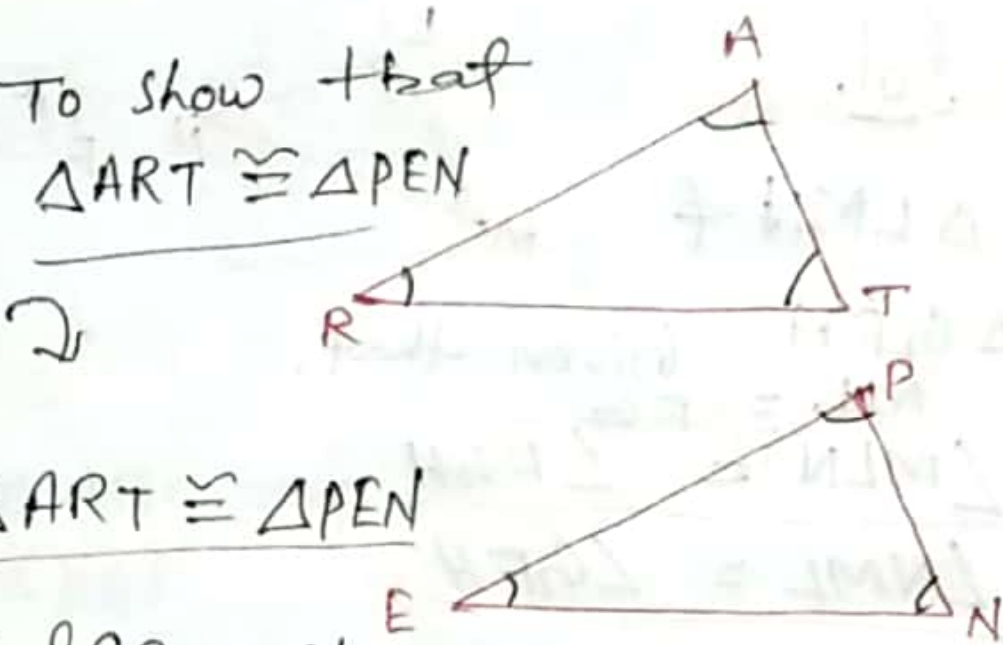
'IInd part'

Question No. : 02.



Q.2. To show that  
 $\triangle ART \cong \triangle PEN$

Sol.



(a)  $\triangle ART \cong \triangle PEN$

By SSS criterion, then

- (i)  $AR = PE$  ✓
- (ii)  $RT = EN$  ✓
- (iii)  $AT = PN$  ✓

(b)  $\triangle ART \cong \triangle PEN$  and  $\angle T = \angle N$

Using SAS criterion, then

- (i)  $RT = EN$  ✓
- (ii)  $PN = AT$  ✓

(c)  $\triangle ART \cong \triangle PEN$

By using ASA criterion

Also  $AT = PN$  (given)

- (i)  $\angle RAT = \angle EPN$  ✓
- (ii)  $\angle ART = \angle PNE$  ✓