

## BHARATH COACHING CENTRE

7<sup>th</sup> cbse

Maths

Total: 40

Congruent triangles

Time: 45 mins

### SECTION-A

$$1 \times 6 = 6$$

1. If two angles are congruent, their..... are same.
2. By which criterion two triangles cannot be proved congruent?
3. The symbol of correspondence is.....
4. An angle is of  $50^\circ$  then its congruent angle is of.....
5. How many medians can a triangle have?
6. If a  $\triangle ABC \cong \triangle PQR$  then AB is equal to

### SECTION-B

$$5 \times 2 = 10$$

1. Can two equilateral triangles always be congruent? Give reasons.
2. Without drawing the figures of the triangles, write all six pairs of equal measures in each of the following pairs of congruent triangles.
  - a.  $\triangle XYZ \cong \triangle MLN$
3. Define congruence of triangles.
4.  $\triangle ABC$  is right triangle in which  $\angle A = 90^\circ$  and  $AB = AC$ . The values of  $\angle B$  &  $\angle C$  will be
5. In a quadrilateral ABCD,  $AD = BC$  and  $\angle DAB = \angle CBA$ . If  $\triangle ABD \cong \triangle BAC$ . The relation between  $\angle ABD$  &  $\angle BAC$  is

### SECTION-C

$$4 \times 3 = 12$$

1. Prove that in an isosceles triangle, angles opposite to equal sides are equal.
2. By applying congruence rule write what additional information is needed to establish congruence
  - a.  $\triangle PQR \cong \triangle FED$  by SAS congruence,  $PQ = FE$  and  $RP = DF$

- b.  $\Delta ABC \cong \Delta RPQ$  by RHS congruence,  
 $\angle B = \angle P = 90^\circ \wedge AB = RP$
3. In a square sheet, draw two triangles of equal areas such that
- The triangles are congruent
  - The triangles are not congruent
4. ABCD is a rectangle. AC is a diagonal. By using SSS congruence rule. Show that  $\Delta ABC \cong \Delta CDA$ .

#### SECTION-D

$$3 \times 4 = 12$$

1. In  $\Delta ABC$ , medians BD and CE are equal and intersect each other at O. prove that  $\Delta ABC$  is an isosceles triangle.
2.  $\Delta ABC$  is isosceles with  $AB = AC$ , AD is the altitude from A to side BC. Prove that (i)  $\Delta ADB \cong \Delta ADC$   
(ii)  $\angle BAD = \angle CAD$
3. ABCD is a rhombus. AC is a diagonal.
- Show three pairs of equal parts giving reasons, in  $\Delta ABC \wedge \Delta ADC$
  - Is  $\Delta ABC \cong \Delta ADC$ ? Give reason.
  - Is  $\angle BAC = \angle DAC$ ? Give reason.