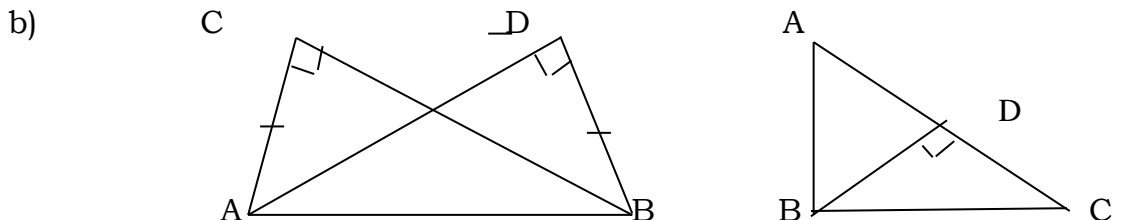
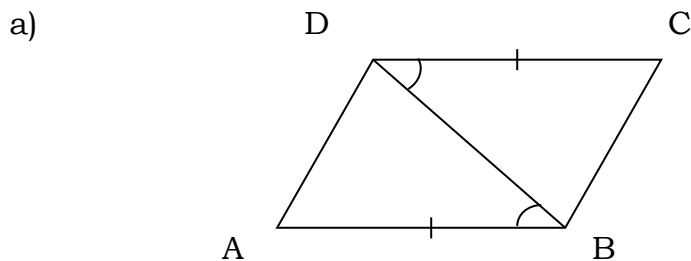


Bhavan's V. M. Public School, Baroda
Ch-7 Congruence of triangles

1. Fill in the blanks:

- a. Two line segments are congruent if they have the same -----.
 - b. Two angles are congruent if they have the same -----.
 - c. Two squares are congruent if they have the same-----.
 - d. Two rectangles are congruent if they have the same ----- and -----.
 - e. Two circles are congruent if they have the same -----.
2. Which of the following statements are true and which are false:
- a. Two squares of equal area are congruent.
 - b. Two rectangles of equal area are congruent.
 - c. In $\triangle ABC$ and DEF , if $\angle A \cong \angle E$, $\angle B \cong \angle F$, and $\angle C \cong \angle D$ then $\triangle ABC \cong \triangle DEF$.
 - d. Two congruent figures are equal in areas but two figures having the same area need not to be a congruent.
 - e. Two figures are congruent, if they have the same size.

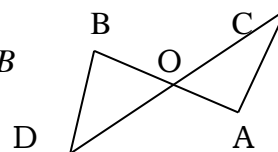
3. In the following pairs of triangles, determine which are congruent. State the result in symbolic form. Also write the condition of congruency.



4. Triangles ABC and DBC have side BC common, $AB = BD$ and $AC = CD$. Are the triangles congruent? State in symbolic form. Which congruence condition do you use? Does $\angle ABD = \angle ACD$? Give reason.

5. In the adjoining figure, line segments AB and CD bisect each other at O.

- a) Which of the following statements is true?
 (i) $\triangle AOC \cong \triangle DOB$ (ii) $\triangle AOC \cong \triangle BOD$ (iii) $\triangle AOC \cong \triangle ODB$



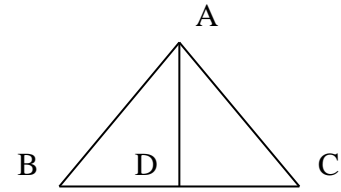
- b) State the three pairs of corresponding parts, which you have used to get the answer.

6. $\triangle ABC$ is isosceles with $AB = AC$. AD is the median of the triangle.

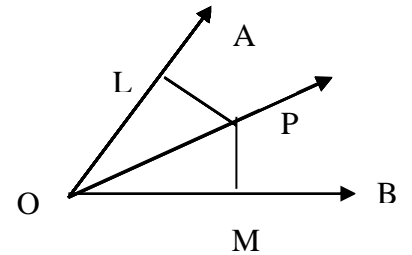
a) State the three pairs of matching parts in two triangles ADB and ADC .

b) Is $\triangle ADB \cong \triangle ADC$?

c) Is it true to say that AD bisects the $\angle A$? Give reason.



7. In the adjoining figure, it is given that $PL = PM$, $PL \perp OA$ and $PM \perp OB$. Show that $\triangle PLO \cong \triangle PMO$



8. Show that the diagonals of a parallelogram divide it into two congruent triangles.

9. Show that the median of an equilateral triangle divides it into two congruent triangles.

10. Show that the diagonals of a square are equal.

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Ms Rani Rauthan