7th – CONGRUENCE OF TRIANGLES - I

Superimposition Of Two Figures:-Two figures are congruent if one figure superimposes the other figure.

Congruence of Triangles:-In case of congruence of triangles it is necessary that we match the correct vertices. A triangles has three angles and three sides, So there six matching part in case of triangles. There are four case of congruency of triangles:

- **SSS Congruence**

Two triangle are congruent if the three sides of one triangle are respectively equal to the three sides of the other triangle.

- **SAS congruence**

Two triangles are congruent if two sides and the included angle of one triangle are congruent to the two sides and the included angle of the other triangle.

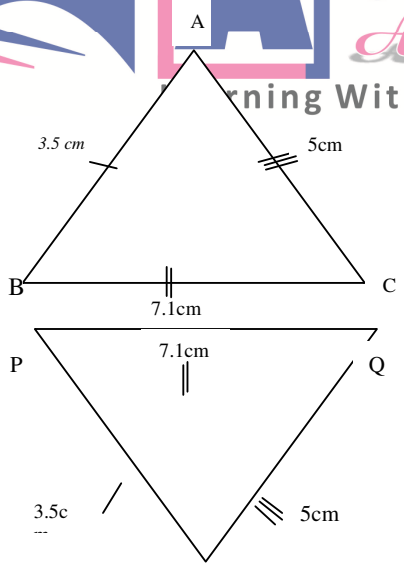
- **ASA congruence**

Two triangles are congruent if two angles and the included side of one triangle are congruent to corresponding angles and side of the other triangle.

- **RHS congruence**

Two right triangles are congruent if the hypotenuse and one side of one triangle are congruent to the hypotenuse and corresponding side of the other triangle.

1. Give any two real-life examples for congruent shapes.
2. If Δ ABC ≅ Δ FED under the correspondence ABC ↔ FED, write all the corresponding congruent parts of the triangles.
3. In triangles ABC and PQR, AB =3.5cm, BC=7.1 cm , AC=5cm, PQ=7.1,QR =5cm and PR =3.5cm.examine whether the two triangle are congruent or not. If yes, write the congruence relation in symbolic form.

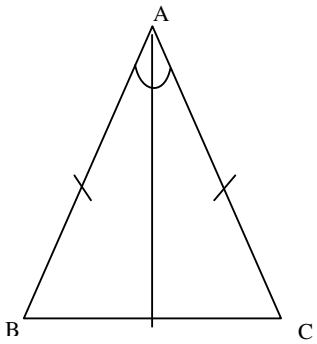


4. AB =AC and AD is the bisector of ∠ BAC.

i. State three pairs of R ual parts in triangle ADB and ADC.

ii. Is Δ ADB ≅Δ ADC? Give reason.

iii. Is ∠B =∠C? Give reason.



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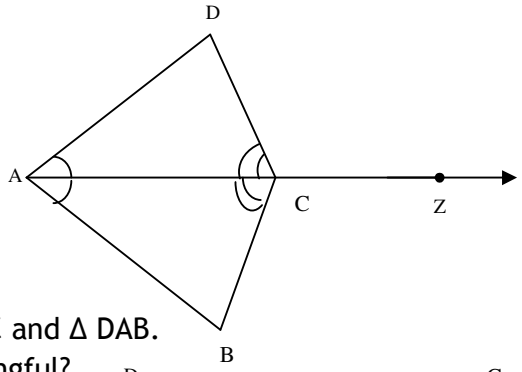
5. Ray AZ bisects ∠ DAB as well as ∠ DCB.

i. State the three pair of equal parts in triangles BAC and DAC.

ii. Is Δ BAC ≅ Δ DAC? Give reason.

iii. Is AB =AD? Justify your answer.

iv. Is CD =CB? Give reason.



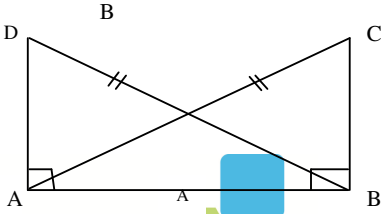
6. DA ⊥ AB ,CB ⊥ AB and AC =BD.

State the three pairs of equal parts in Δ ABC and Δ DAB.

Which of the following statements in meaningful?

i. Δ ABC ≅ Δ BAD

ii. Δ ABC ≅ Δ ABD



7. BD and CE are altitudes of Δ ABC such that BD =CE.

i. State the three pairs of equal parts in Δ CBD and Δ BCE.

ii. Is Δ CBD ≅Δ BCE? Why or why not?

iii. Is ∠ DCB =∠ EBC? Why or why not?