## CH. 7 : CONGRUENCE OF TRIANGLES

1. If $\triangle \mathrm{ABC} \cong \triangle \mathrm{DEF}, \angle \mathrm{A}=100^{\circ}$ and $\angle \mathrm{B}=45^{\circ}$ then $\angle \mathrm{F}=$ $\qquad$
2. $A B C D$ is a rhombus. $A C$ is a diagonal
i) Show three pairs of equal parts giving reasons, in $\triangle A B C$ and $\triangle A D C$.
ii) Is $\triangle A B C \cong \triangle A D C$ ? Give reason.
iii) Is $\angle \mathrm{BAC}=\angle \mathrm{DAC}$ ? Give reason.


C
3. $A B C$ is an isosceles triangle with $A B=B C$ and $A D \perp B C$.

In $\triangle A B D$ and $\triangle A C D$
i) Show three pairs of equal parts giving reasons.
ii) Is $\triangle \mathrm{ADB} \cong \triangle \mathrm{ADC}$ ? Give reason.
iii) Is $\angle B A D=\angle C A D$ ? Give reason.

4. In the figure $P Q$ and $X Y$ bisect each other at $O$.
i) Show three pairs of equal parts in $\triangle P O X$ and $\triangle$ QOY
ii) Is $\triangle$ POX $\cong \triangle$ QOY Give reasons
iii) Is $\angle \mathbf{X}=\angle \mathbf{Y}$ ? Give reasons


Q
5. In the figure, $O$ is the midpoint of $B C$ and $\angle B=90^{\circ}, \angle C=90^{\circ}$ By using ASA Congruence rule

6. $A B C D$ is a rectangle. $A C$ is a diagonal (Draw a figure). By using SSS Congruence rule Show that $\triangle \mathrm{ABC} \cong \triangle \mathrm{CDA}$
7. In the figure $A D \perp B C$. $D$ is the midpoint of $B C$

Using SAS Congruence rule show that
$\triangle A B D \cong \triangle A C D$
Is $A B=A C$ ? Why?

B

8. Given the figure,

Prove that $\triangle A B C \cong \triangle \operatorname{RQP}$ If $\angle A=30^{\circ}, \angle R=30^{\circ}$


