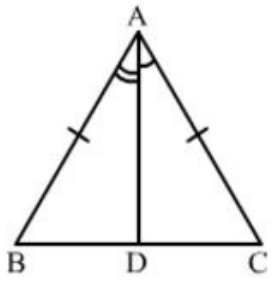
Congruence Ex 16.3 Q5

Answer :



(i) We have AB = AC (given)

$\angle BAD = \angle CAD$ (AD bisects $\angle BAC$)

and AD = AD (common)

Therefore by SAS condition of congruence, $\triangle ABD \cong \triangle ACD$.

(ii) We have used AB, AC; $\angle BAD = \angle CAD$; AD, DA.

(iii) Now $\triangle ABD \cong \triangle ACD$ therefore by c.p.c.t BD = DC.

Congruence Ex 16.3 Q6

Answer :

i) AB = AD (given)

$\angle BAC = \angle DAC$ (given)

AC = CA (common)

Therefore by SAS conditionof congruency, $\triangle ABC \cong \triangle ADC$.

ii) $\angle ABC = \angle ADC$ (c.p.c.t)

$\angle ACD = \angle ACB$ (c.p.c.t)

Congruence Ex 16.3 Q7

Answer :

(i) Yes $\triangle ACD \cong \triangle CAB$ by SAS condition of congruency.

(ii) We have used AB = DC, AC = CA and $\angle DCA = \angle BAC$.

(iii) $\angle CAD = \angle ACB$ since the two triangles are congruent.

(iv) Yes, this follows from AD $\|$ BC as alternate angles are equal.If alternate angles are equal the lines are parallel.

********** END **********