

31/08/xx

Class-IX (MATHS)

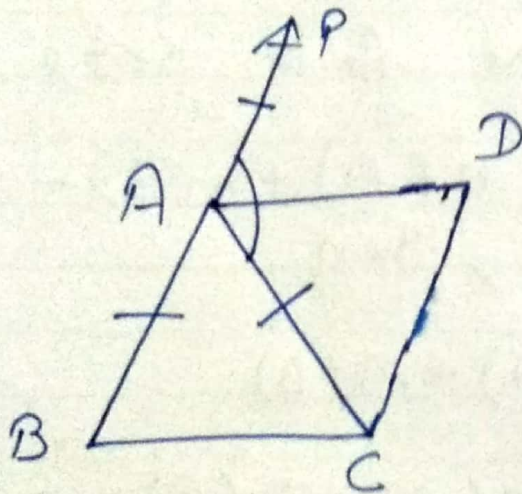
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1) ABC is an isosceles triangle
 in which $AB = AC$, AD bisects
 exterior angle PAC, and $CD \parallel AB$,
 Show that

(a) $\angle DAC = \angle BCA$

(b) ABCD is a \parallel^m .

Ans \rightarrow



Q (1) ΔABC is isosceles in which
 $AB = AC$ (Given)

So, $\angle ABC = \angle ACB$

also $\angle PAC = \angle ABC + \angle ACB$

{Ext Sum prop
of Δ }

$\therefore \angle PAC = \angle ACB + \angle ACB$

$\angle PAC = 2\angle ACB$ -- (1)

Now, AD bisects $\angle PAC$

$$\text{So, } \angle PAC = 2\angle DAC \quad \text{--- (ii)}$$

\therefore from (i) and (ii)

$$\cancel{2}\angle DAC = \cancel{2}\angle ACB$$

$$\angle DAC = \angle ACB$$

(ii) ABCD is a \parallel^{gm} .

clearly they form a pair of altⁿ angles.

$$\text{So, } BC \parallel AD$$

$$\text{and } BA \parallel CD$$

So, ABCD is a \parallel^{gm}

Do yourself

Solve

Ex-8.1 from N.G.E.R.T