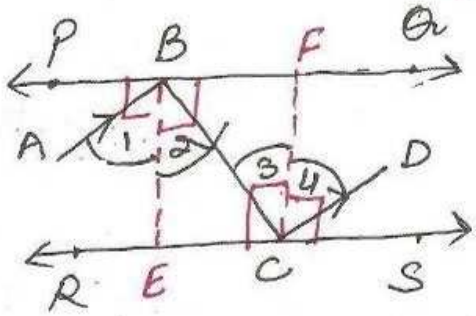
(6)



to prove AB || CD

Const - draw BE ⊥ PQ intersecting RS at E, CF ⊥ RS intersecting PQ at F

Proof BE ⊥ PQ, CF ⊥ RS, PQ || RS

∴ BE || FC

$\angle 2 = \angle 3$ ... (i) (alternate interior $\angle$s)

$\angle 1 = \angle 2$ ... (ii) $[\because \angle i = \angle r]$

$\angle 3 = \angle 4$ ... (iii)

From (i), (ii), (iii) $\angle 1 = \angle 2 = \angle 3 = \angle 4$ ... (iv)

Q. $\angle ABC = \angle 1 + \angle 2$

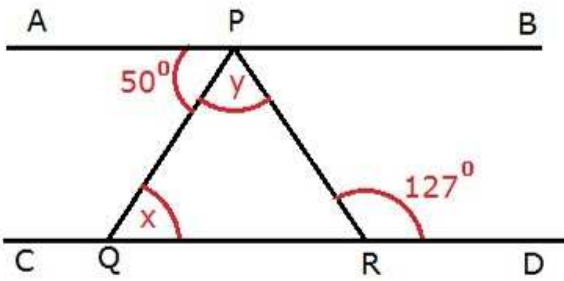
$= \angle 3 + \angle 4$ (using (iv))

$\Rightarrow \angle ABC = \angle BCD$

But these are alternate interior angles

AB || CD

5.



solution

AB || CD

angle APR = angle PRD

[alternate interior angles]

50 + y = 127

y = 127 - 50

y = 77°

angle APQ = x

[alternate interior angles]

x = 50°

NCERT Solutions by Dev Anoop (Bathinda)