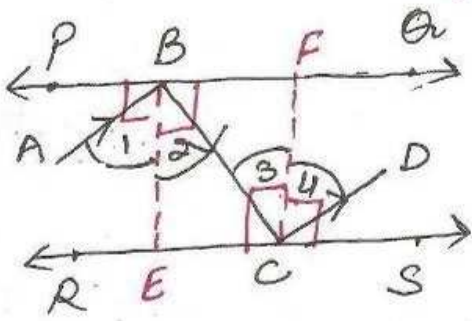


⑥



to prove  $AB \parallel CD$

Const - draw  $BE \perp PQ$   
intersecting  $RS$  at  $E$ ,  
 $CF \perp RS$  intersecting  
 $PQ$  at  $F$

① Proof  $BE \perp PQ, CF \perp RS$ ,  
 $PQ \parallel RS$

$\therefore BE \parallel FC$

$\angle 2 = \angle 3 \dots$  (i) (alternate interior  $\angle$ )

$\angle 1 = \angle 2 \dots$  (ii) [ $\angle 1 = \angle 2$ ]

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

from (i), (ii), (iii)  $\angle 1 = \angle 2 = \angle 3 = \angle 4 \dots$  (iv)

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

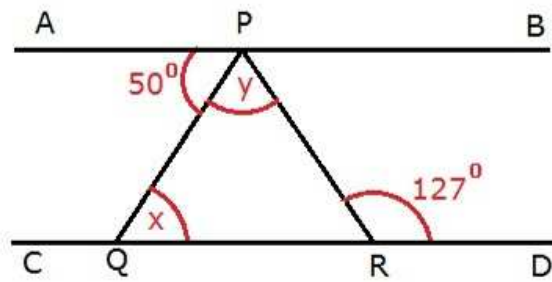
$= \angle 3 + \angle 4$  (us (iv))

$\Rightarrow \angle ABC = \angle BCD$

But these are alternate interior angles

$AB \parallel CD$

5.



solution

$AB \parallel CD$

angle  $APR =$  angle  $PRD$

[ alternate interior angles ]

$50 + y = 127$

$y = 127 - 50$

$y = 77^\circ$

angle  $APQ = x$

[ alternate interior angles ]

$x = 50^\circ$