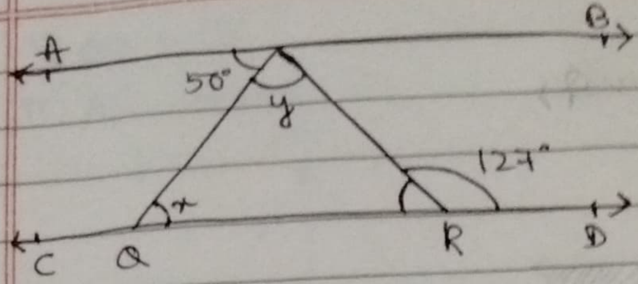
Q5)



From the diagram,

APQ = PQR (Alternate interior angles)

Now, putting the value of APQ = 50° & PQR = x,
we get,

$x = 50°$

Also,

APR = PRD (Alternate interior angles)

APR = APQ + QPR

Now, putting values of QPR = y &
APR = 127°, we get

$127° = 50° + y$

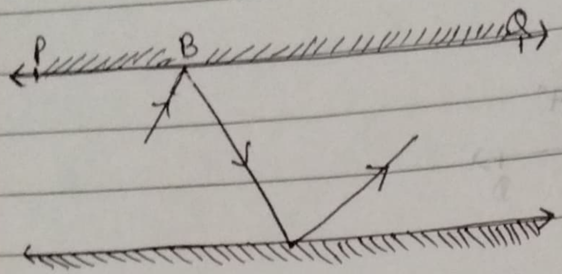
$y = 77°$

The values of x & y are calculated as :-

$x = 50°$

$y = 77°$

Q6)



Sol^n :-

First, draw two lines BE & CF such that BE ⊥ PQ & CF ⊥ RS.

Now, Since PQ ∥ RS,

So, BE ∥ CF

we know that,

Angle of incidence = Angle of reflection (By the law of reflection)

So,

1 = 2 &

3 = 4

we also know that alternate interior angles are equal.

Here, BE ∥ CF and the transversal line BC cuts them at B & C.

So, 2 = 3 (As they are alternate interior angles)

Now, 1+2 = 3+4

ABC = DCB

So, AB & CD are alternate interior angles are equal.

Exercise → 6.3

H.W

Q1) It is given the TQR is a straight line and so, the linear pairs (i.e. TQP and PQR) will add up to 180°.

So, TQP + PQR = 180°

Putting the value of TQP = 110°

PQR = 70°

& Consider the ΔPQR,

Here, the side QP is extended to S and so, SPR form the exterior angle.

Thus, SPR (SPR = 135°) is equal to the sum of interior opposite angles.

PQR + PRQ = 135°

Putting the value of PQR = 70°, we get,

PRQ = 135° − 70°

Hence, PRQ = 65°.

Q2) we know that the sum of interior angles of the Δ.

So, X + XYZ + XZY = 180°

Putting the values as given in the question we get,

62° + 54° + XZY = 180°

or

XZY = 64°

we know that ZO is the bisector so,

OZY = $\frac{1}{2}$ XZY

∴ OZY = 32°

Similarly, YO is a bisector and so,

$OYZ = \frac{1}{2} XYZ$

or

$OYZ = 27^\circ$ (as $XYZ = 54^\circ$)

Now as the sum of the ~~interior~~ interior angles of the triangle.

$OZY + OYZ + O = 180^\circ$

Putting their respective values we get,

$O = 180^\circ - 32^\circ - 27^\circ$

$O = 121^\circ$

Q3) we know that AE is a transversal since AB DE.

Here BAC and AED are alternate interior angles.

Hence, BAC = AED

It is given that $BAC = 35^\circ$

$AED = 35^\circ$

Considering Δ CDE. we know that the sum of the interior angles of a triangle is 180°.

$\therefore$ ~~DE~~ $DCE + 35^\circ + 53^\circ = 180^\circ$

Hence, $DCE = 92^\circ$