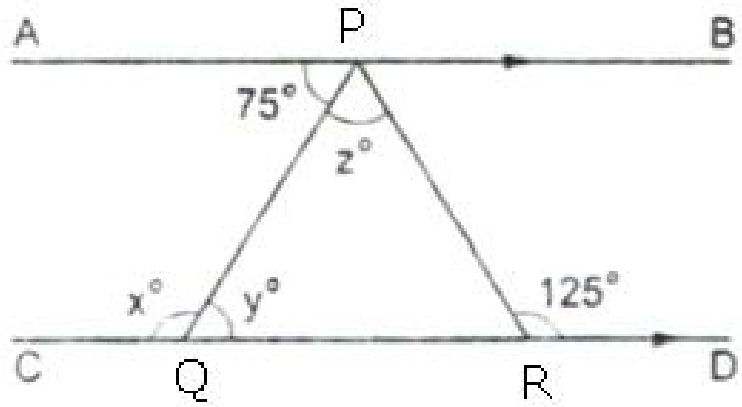
Exercise 4C

Question 14:



Since AB || CD and PQ is a transversal.
So, y = 75 [Alternate angle]
Since PQ is a transversal and AB || CD, so x + APQ = 180^o
[Sum of consecutive interior angles]
⇒ $x^o = 180^o$ - APQ
⇒ x = 180 - 75 = 105
Also, AB || CD and PR is a transversal.
So, ∠APR = ∠PRD [Alternate angle]
⇒ ∠APQ + ∠QPR = ∠PRD [Since ∠APR = ∠APQ + ∠QPR]
⇒ $75^o + z^o = 125^o$
⇒ z = 125 - 75 = 50
∴ x = 105, y = 75 and z = 50.

Question 15:
∠PRQ = $x^o = 60^o$ [vertically opposite angles]
Since EF || GH, and RQ is a transversal.
So, ∠x = ∠y [Alternate angles]
⇒ y = 60
AB || CD and PR is a transversal.
So, ∠PRD = ∠APR [Alternate angles]
⇒ ∠PRQ + ∠QRD = ∠APR [since ∠PRD = ∠PRQ + ∠QRD]
⇒ $x + ∠QRD = 110^o$
⇒ $∠QRD = 110^o - 60^o = 50^o$
In ΔQRS, we have,
$∠QRD + t^o + y^o = 180^o$
⇒ 50 + t + 60 = 180
⇒ t = 180 - 110 = 70
Since, AB || CD and GH is a transversal
So, $z^o = t^o = 70^o$ [Alternate angles]
∴ x = 60 , y = 60, z = 70 and t = 70

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