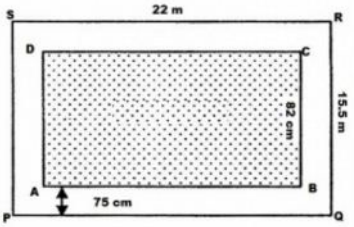
Mensuration I Ex 20.2 Q13

Answer :

We have,

Length of the hall PQ = 22 m and breadth of the hall QR = 15.5 m



∴ Area of the school hall $PQRS$ = 22 m x 15.5 m = 341 m^2

Length of the carpet AB = 22 m − (0.75 m + 0.75 m) = 20.5 m [Since 100 cm = 1 m]

Breadth of the carpet BC = 15.5 m − (0.75 m + 0.75 m) = 14 m

∴ Area of the carpet $ABCD$ = 20.5 m x 14 m = 287 m^2

Area of the strip = Area of the school hall $PQRS$ − Area of the carpet $ABCD$

= 341 m^2 − 287 m^2

= 54 m^2

Again,

Area of the 1 m length of carpet = 1 m x 0.82 m = 0.82 m^2

Thus,

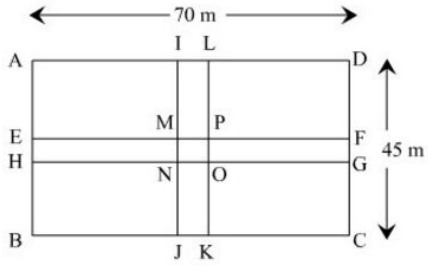
Length of the carpet whose area is 287 m^2 = 287 m^2 ÷ 0.82 m^2 = 350 m

Cost of the 350 m long carpet = Rs. 18 x 350 = Rs. 6300

Mensuration I Ex 20.2 Q14

Answer :

Let $ABCD$ be the rectangular park then $EFGH$ and $IJKL$ the two rectangular roads with width 5 m.



Length of the rectangular park AD = 70 cm

Breadth of the rectangular park CD = 45 m

∴ Area of the rectangular park = Length x Breadth = 70 m x 45 m = 3150 m^2

Area of the road $EFGH$ = 70 m x 5 m = 350 m^2

Area of the road $JKIL$ = 45 m x 5 m = 225 m^2

Clearly area of $MNOP$ is common to the two roads.

Thus, Area of $MNOP$ = 5 m x 5 m = 25 m^2

Hence,

Area of the roads = Area ($EFGH$) + Area ($JKIL$) − Area ($MNOP$)

= (350 + 225) m^2 − 25 m^2 = 550 m^2

Again, it is given that the cost of constructing the roads = Rs. 105 per m^2

Therefore,

Cost of constructing 550 m^2 area of the roads = Rs. (105 × 550)

= Rs. 57750.

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