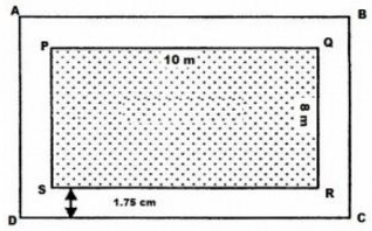
Mensuration I Ex 20.2 Q10

Answer :

We have,

Length of the poster = 10 cm and breadth of the poster = 8 cm



∴ Area of the poster = Length x Breadth = 10 cm x 8 cm = 80 cm^2

From the figure, it can be observed that,

Length of the cardboard when the margin is included = 10 cm + 1.75 cm + 1.75 cm = 13.5 cm

Breadth of the cardboard when the margin is included = 8 cm + 1.75 cm + 1.75 cm = 11.5 cm

∴ Area of the cardboard = Length x Breadth = 13.5 cm x 11.5 cm = 155.25 cm^2

Hence,

(i) Area of the margin = Area of cardboard including the margin − Area of the poster

= 155.25 cm^2 − 80 cm^2

= 75.25 cm^2

(ii) Cost of the cardboard = Area of the cardboard x Rate of the cardboard Rs. 0.60 per cm^2

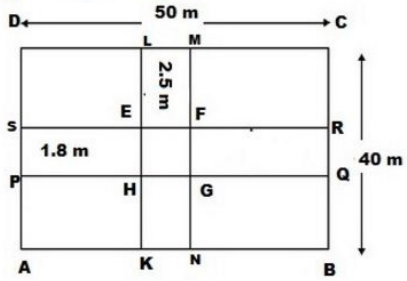
= Rs. (155.25 x 0.60)

= Rs. 93.15

Mensuration I Ex 20.2 Q11

Answer :

Let *ABCD* be the rectangular field and *KLMN* and *PQRS* the two rectangular roads with width 1.8 m and 2.5 m, respectively.



Length of the rectangular field *CD* = 50 cm and breadth of the rectangular field *BC* = 40 m

∴ Area of the rectangular field *ABCD* = 50 m x 40 m = 2000 m^2

Area of the road *KLMN* = 40 m x 2.5 m = 100 m^2

Area of the road *PQRS* = 50 m x 1.8 m = 90 m^2

Clearly area of *EFGH* is common to the two roads.

Thus, Area of *EFGH* = 2.5 m x 1.8 m = 4.5 m^2

Hence,

Area of the roads = Area (*KLMN*) + Area (*PQRS*) − Area (*EFGH*)

= (100 m^2 + 90 m^2) − 4.5 m^2 = 185.5 m^2

Area of the remaining portion of the field = Area of the rectangular field *ABCD* − Area of the roads

= (2000 − 185.5) m^2

= 1814.5 m^2

Mensuration I Ex 20.2 Q12

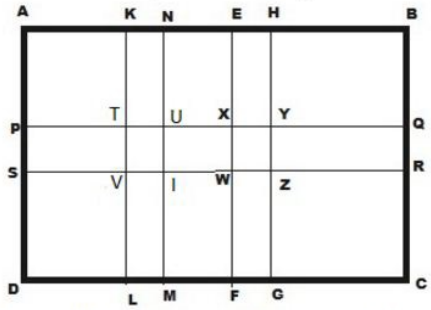
Answer :

Let *ABCD* be the rectangular field.

Here,

Two roads which are parallel to the breadth of the field *KLMN* and *EFGH* with width 2 m each.

One road which is parallel to the length of the field *PQRS* with width 2 m.



Length of the rectangular field *AB* = 94 m and breadth of the rectangular field *BC* = 32 m

∴ Area of the rectangular field = Length x Breadth = 94 m x 32 m = 3008 m^2

Area of the road *KLMN* = 32 m x 2 m = 64 m^2

Area of the road *EFGH* = 32 m x 2 m = 64 m^2

Area of the road *PQRS* = 94 m x 2 m = 188 m^2

Clearly area of *TUVI* and *WXYZ* is common to these three roads.

Thus,

Area of *TUVI* = 2 m x 2 m = 4 m^2

Area of *WXYZ* = 2 m x 2 m = 4 m^2

Hence,

(i) Area of the field covered by the three roads:

= Area (*KLMN*) + Area (*EFGH*) + Area (*PQRS*) − {Area (*TUVI*) + Area (*WXYZ*)}

= [64+ 64 + 188 − (4 + 4)] m^2

= 316 m^2 − 8 m^2

= 308 m^2

(ii) Area of the field not covered by the roads:

= Area of the rectangular field *ABCD* − Area of the field covered by the three roads

= 3008 m^2 − 308 m^2

= 2700 m^2

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