Find the perimeter of a rectangle in which:
(i) length = 16.8 cm and breadth = 6.2 cm
(ii) length = 2 m 25 cm and breadth = 1 m 50 cm
(iii) length = 8 m 5 dm and breadth = 6 m 8 dm

ANSWER:

We know: Perimeter of a rectangle = $2 \times (\text{Length} + \text{Breadth})$

(i) Length = 16.8 cm
Breadth = 6.2 cm
Perimeter = $2 \times (\text{Length} + \text{Breadth})$
$= 2 \times (16.8 + 6.2) = 46 \text{ cm}$

(ii) Length = 2 m 25 cm
=(200+25) cm (1 m = 100 cm)
= 225 cm
Breadth =1 m 50 cm
= (100+50) cm (1 m = 100 cm)
= 150 cm
Perimeter = $2 \times (\text{Length} + \text{Breadth})$
$= 2 \times (225 + 150) = 750 \text{ cm}$

(iii) Length = 8 m 5 dm
= (80+5) dm (1 m = 10 dm)
= 85 dm
Breadth = 6 m 8 dm
= (60+8) dm (1 m = 10 dm)
= 68 dm
Perimeter = $2 \times (\text{Length} + \text{Breadth})$
$= 2 \times (85 + 68) = 306 \text{ dm}$

A wire is in the form of a circle. The radius of the circle is 28 cm. The wire is then moulded to form a square. Find the side of the square formed?

A. 44 cm

B. 66 cm

C. 22 cm

D. 11 cm

Answer: (A).

Explanation:

Radius of the circle (r) = 28 cm.

Length of the wire (Circumference) =

$2\pi r = 2\pi 28 = 176 \text{ cm}$

Let side of the square be 'a' cm.

Perimeter of square (4a) = Circumference of the circle = 176 cm

or, 4a = 176 cm

or, a = 44 cm

Thus, side of the square is 44 cm.

The area of the path 1 m wide surrounding a playground 60 m long and 40 m broad is:

A. 200 sq. m.

B. 204 sq. m.

C. 2604 sq. m.

D. 240 sq. m.

Answer: (B).

Explanation:

Length of the playground (L1) = 60 m

Breadth of the playground (B1) = 40 m

∴ area of the playground = length * breadth
= 60 * 40 = 2400 sq. m

Also,

Length of the playground including length of the path (L2) = 60 + 2 = 62 m

Breadth of the playground including length of the path (B2) = 40 + 2 = 42 m

∴ area of the playground including area of the path = 62 * 42 = 2604 sq. m

Thus, area of the path = 2604 - 2400 = 204 sq. m

A restaurant hall is 20 metre long, 15 metre wide and 5 metre high. Its interior has to be covered with mat. What will be the total expenditure if it costs Rs. 60 per square metre?

A. Rs. 64000

B. Rs. 57000

C. Rs. 52000

D. Rs. 45000

Answer: (B).

Explanation:

Length (l) = 20 m, Breadth (b) = 15 m and Height (h) = 5 m

Total area of the hall to be covered with mat

= 2(lb + bh + hl)

= 2(20 * 15 + 15 * 5 + 5 * 20)

=2(300 + 75 + 100)

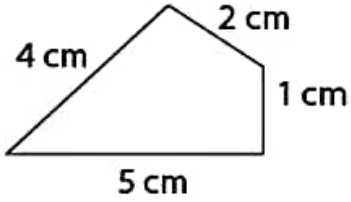
= 2 * 475

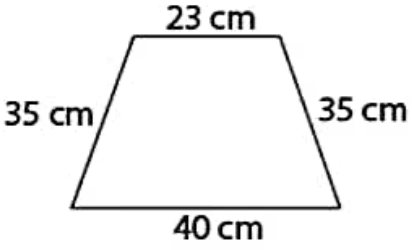
= 950 sq. m

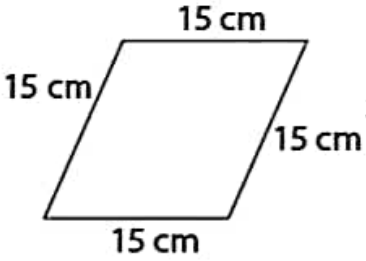
Total expenditure = 60 * 950

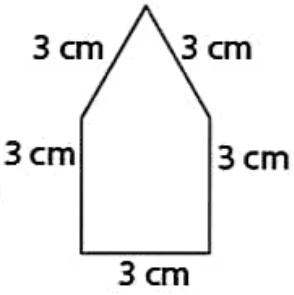
= Rs. 57000

Find the perimeter of each of the following shapes:









Solution:

We know that perimeter is the sum of lengths of all the sides of a closed figure.

(i) Perimeter of the given figure = 4 + 2 + 1 + 5 = 12 cm

(ii) Perimeter of the given figure = 23 + 35 + 40 + 35 = 133 cm

(iii) Perimeter of the given figure = 15 + 15 + 15 + 15 = 60 cm

(iv) Perimeter of the given figure = 3 + 3 + 3 + 3 + 3 = 15 cm

A marble tile measures 10 cm × 12 cm. How many tiles will be required to cover a wall of size 3 m × 4 m? Also, find the total cost of the tiles at the rate of Rs 2 per tile.

Solution:

Measure of marble tile = 10 cm × 12 cm
Size of the wall = 3 m × 4 m = 300 cm × 400 cm
So the area of marble tile = 10 cm × 12 cm = 120 cm2
Area of wall = 300 cm × 400 cm = 120000 cm2
No. of tiles required to cover the wall = Area of wall/ Area of one tile
Substituting the values
No. of tiles required to cover the wall = 120000/120 = 1000 tiles

It is given that
Cost of one tile = Rs 2
So the cost of 1000 tiles = 1000 × 2 = Rs 2000
Hence, 1000 number of tiles are required to cover the wall and the cost is Rs 2000.

The area of a rectangle is 49 cm2 and its breadth is 2.8 cm. Find the length of the rectangle.

Solution:

It is given that area of a rectangle = 49 cm2

Breadth of a rectangle = 2.8 cm

We know that

Area of a rectangle = L × B

It can be written as

L = Area/B = 49/2.8 = 17.5 cm

Hence, the length of the rectangle is 17.5 cm.

The dimensions of a photographs are 30 cm × 20 cm. What length of wooden frame is needed to frame the picture?

Solution:

It is given that

Dimensions of a photographs = 30 cm × 20 cm

So the required length of the wooden frame can be determined from the perimeter of the photograph = 2 (L + B)

By substituting the values = 2 (30 + 20) = 2 × 50 = 100 cm

Hence, the length of the wooden frame required to frame the picture is 100 cm.