Problems on Area Aptitude Questions and Answers Pdf

1. A rectangular plot measuring 90 metres by 50 metres is to be enclosed by wire fencing. If the poles of the fence are kept 5 metres apart, how many poles will be needed?

a. 55

b. 56

c. 57

d. 58 -→

Ans:

Perimeter of the plot = 2(90 + 50) = 280 m.

$\therefore$ Number of poles = $\left(\frac{280}{5}\right) = 56$

2. The ratio between the length and the breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/hr complete one round in 8 minutes, then the area of the park (in sq.m) is

a. 15360 sq.m

b. 153600 sq.m

c. 30720 sq.m

d. 307200 sq.m -→

Ans:

Perimeter = Distance covered in 8 min.

$= \left(\frac{12000}{60} \times 8\right) \text{m} = 1600 \text{ m}.$

Let length = $3x$ metres and breadth = $2x$ metres.

Then, $2(3x + 2x) = 1600$ or $x = 160$.

Length = 480 m and Breadth = 320 m.

$\therefore$ Area = $(480 \times 320)\ \text{m}^2 = 153600\ \text{m}^2$.

3. How many metres of carpet 63 cm wide will be required to cover the floor of a room 14 m by 9 m?

a. 185 m

b. 200 m

c. 210 m

d. 220 m -→B

Ans:

Area of the floor = $(14 \times 9)\ m^2 = 126\ m^2$.

$\therefore$ Length of the carpet = $\left(\frac{126}{63} \times 100\right) m = 200\ m$

4. A room 5 m and 8 m is to be carpeted leaving a margin of 10 cm from each wall. If the cost of the carpet is Rs. 18 per sq.metre, the cost of carpeting the room will be

a. Rs. 673.92

c. Rs. 682.46

c. Rs. 691.80

d. Rs. 702.60 -→

Ans:

Area of the carpet = $[(5 - 0.20) \times (8 - 0.20)]\ m^2 = (4.8 \times 7.8)\ m^2 = 37.44\ m^2$.

$\therefore$ Cost of carpeting = ₹ (37.44×18) = ₹ 673.92.

5. A garden is 24 m long and 14 m wide. There is a path 1 m wide outside the garden along its sides. If the path is to be constructed with square marble tiles 20 cm x 20 cm, the number of tiles required to cover the path is

a. 200

b. 1800

c. 2000

d. 2150 -→

Ans:

Area of the path = $[(26 \times 16) - (24 \times 14)]\ m^2 = (416 - 336)\ m^2 = 80\ m^2$.

$\therefore$ Number of tiles required to cover the path

$$= \frac{\text{Area of path}}{\text{Area of each tile}} = \left(\frac{80 \times 100 \times 100}{20 \times 20}\right) = 2000.$$

6. Three plots having areas 110, 130 and 190 square metres are to be subdivided into flower beds of equal size. If the breadth of a bed is 2 metre, the maximum length of a bed can be

a. 5 m

b. 11 m

c. 13 m

d. 19 m -→

Ans:

Maximum possible size of a flower bed = (H.C.F of 110, 130, 190) sq. m = 10 sq. m

$\therefore$ Maximum possible length = $\left(\frac{10}{2}\right)$ m = 5 m.

7. The perimeter of a square is 48 cm. The area of a rectangle is 4 cm^2 less than the area of the square. If the length of the rectangle is 14 cm, then its perimeter is

a. 24 cm

b. 48 cm

c. 50 cm

d. 54 cm -→B

Ans:

Side of the square = 12 cm

Area of rectangle = $[(12 \times 12) - 4]\ cm^2 = 140\ cm^2$.

$\therefore$ Breadth = $\frac{\text{Area}}{\text{Length}} = \frac{140}{14} = 10$ cm.

Hence, perimeter = $2(l + b) = 2\ (14 + 10)$ cm = 48 cm.

8. The perimeter of a rectangle is 60 metres. If its length is twice its breadth, then its area is

a. 160 m^2

b. 180 m^2

c. 200 m^2

d. 220 m^2

Ans: C

Let the breadth of the rectangle be x metres. Then, length of the rectangle = $(2x)$ metres.

$2(2x + x) = 60 \Rightarrow 6x = 60 \Rightarrow x = 10.$

So, length = 20 m, breadth = 10 m.

$\therefore$ Area = $(20 \times 10)\ m^2 = 200\ m^2$.

9. An order was placed for supply of carpet of breadth 3 metre, the length of carpet was 1.44 times of breadth. Subsequently the breadth and length were increased by 25 and 40 percent respectively. At the rate of 45 per square metre, what would be the increase in the cost of the carpet?

a. Rs. 398.80

b. Rs. 437.40

c. Rs. 583.20

d. Rs. 1020.60 -→B

Ans:

Original breadth = 3 m,
Original length = (1.44 × 3) m = 4.32 m.

New breadth = (125% of 3) m = $\left(\frac{125}{100} \times 3\right)$m = 3.75 m.

New length = (140% of 4.32) m = $\left(\frac{140}{100} \times 4.32\right)$m = 6.048 m.

Original area = (4.32 × 3) m^2 = 12.96 m^2.
New area = (6.048 × 3.75) m^2 = 22.68 m^2.
Increase in area = (22.68 – 12.96) m^2 = 9.72 m^2.
∴ Increase in cost = ₹ (9.72 × 45) = ₹ 437.40.

10. A rectangular grassy plot 110 m by 65 m has a gravel path 2.5 m wide all round it on the inside. Find the cost of gravelling the path at 80 paise per sq.metre.

Sol. Area of the plot = (110 × 65) m^2 = 7150 m^2.

Area of the plot excluding the path = [(110 – 5) × (65 – 5)] m^2 = 6300 m^2.

∴ Area of the path = (7150 – 6300) m^2 = 850 m^2.

Cost of gravelling the path = ₹$\left(850 \times \frac{80}{100}\right)$= ₹ 680.