Aptitude :: Area

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11. The difference between the length and breadth of a rectangle is 23 m. If its perimeter is 206 m, then its area is:

(A) 1520 m^2

(B) 2420 m^2

(C) 2480 m^2

(D) 2520 m^2

Answer: Option (D)

Explanation:

We have: (l - b) = 23 and 2(l + b) = 206 or (l + b) = 103.

Solving the two equations, we get: $l = 63$ and $b = 40$.

$\therefore$ Area = $(l \times b) = (63 \times 40)\ m^2 = 2520\ m^2$.

12. The length of a rectangle is halved, while its breadth is tripled. What is the percentage change in area?

(A) 25% increase

(B) 50% increase

(C) 50% decrease

(D) 75% decrease

Answer: Option (B)

Explanation:

Let original length = x and original breadth = y.

Original area = xy.

New length = $\frac{x}{2}$.

New breadth = $3y$.

New area = $\left(\frac{x}{2} \times 3y\right) = \frac{3}{2}xy$.

$\therefore$ Increase % = $\left(\frac{1}{2}xy \times \frac{1}{xy} \times 100\right)\% = 50\%$.

13. The length of a rectangular plot is 20 metres more than its breadth. If the cost of fencing the plot @ 26.50 per metre is Rs. 5300, what is the length of the plot in metres?

(A) 40

(B) 50

(C) 120

(D) Data inadequate

(E) None of these

Answer: Option (E)

Explanation:

Let breadth = x metres.

Then, length = (x + 20) metres.

Perimeter = $\left(\frac{5300}{26.50}\right)$ m = 200 m.

$\therefore$ 2[(x + 20) + x] = 200

$\Rightarrow$ 2x + 20 = 100

$\Rightarrow$ 2x = 80

$\Rightarrow$ x = 40.

Hence, length = x + 20 = 60 m.

14. A rectangular field is to be fenced on three sides leaving a side of 20 feet uncovered. If the area of the field is 680 sq. feet, how many feet of fencing will be required?

(A) 34

(B) 40

(C) 68

(D) 88

Answer: Option (D)

Explanation:

We have: l = 20 ft and lb = 680 sq. ft.

So, b = 34 ft.

$\therefore$ Length of fencing = (l + 2b) = (20 + 68) ft = 88 ft.

15. A tank is 25 m long, 12 m wide and 6 m deep. The cost of plastering its walls and bottom at 75 paise per sq. m, is:

(A) Rs. 456

(B) Rs. 458

(C) Rs. 558

(D) Rs. 568

Answer: Option (C)

Explanation:

Area to be plastered $= [2(l + b) \times h] + (l \times b)$

$= \{[2(25 + 12) \times 6] + (25 \times 12)\}\ m^2$

$= (444 + 300)\ m^2$

$= 744\ m^2.$

$\therefore$ Cost of plastering = Rs. $\left(744 \times \frac{75}{100}\right)$ = Rs. 558.

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