

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 sq mt
- **B.**2420 sq mt
- **C.**2480 sq mt
- **D.**2520 sq mt
- **E.**None of these

#### Answer & Explanation

**Answer** - **D** (2520 sq mt)

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

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

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

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
- **E.**None of these

#### Answer & Explanation

**Answer** - **B** (50% increase)

**Explanation** - Let original length =  $x$  and original breadth =  $y$ .

Original area =  $xy$ .

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

New breadth =  $3y$ .

New area =  $\frac{x}{2} \times 3y = \frac{3}{2}xy$ .

$$\text{Increase \%} = \frac{1}{2}x \times \frac{1}{xy} \times 100\% = 50\%.$$

**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 & Explanation

**Answer** - **D** (None of these)

**Explanation** - Let breadth =  $x$  metres.

Then, length =  $(x + 20)$  metres.

$$\text{Perimeter} = \frac{5300}{26.50} \text{ m} = 200 \text{ m.}$$

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

$$2x + 20 = 100$$

$$2x = 80$$

$$x = 40.$$

$$\text{Hence, length} = x + 20 = 60 \text{ m.}$$

**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
- **E.**None of these

#### Answer & Explanation

**Answer** - **D** (88)

**Explanation** - We have:  $l = 20$  ft and  $lb = 680$  sq. ft.

So,  $b = 34$  ft.

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 468
- **E.**None of these

#### Answer & Explanation

**Answer** - **C** (Rs 558)

**Explanation** -

Area to be plastered

$$\begin{aligned} &= [2(l + b) \times h] + (l \times b) \\ &= \{[2(25 + 12) \times 6] + (25 \times 12)\} \text{ m}^2 \\ &= (444 + 300) \text{ m}^2 \\ &= 744 \text{ m}^2. \end{aligned}$$

$$\text{Cost of plastering} = \text{Rs. } 744 \times \frac{75}{100} = \text{Rs. } 558.$$

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