

Part-A
Choose the correct answer

FM-15

1 x 5 = 5

(Part-B → 2 case
study total 10M)

1. $(-3x) \times (5-y) =$

A. $15x + 3xy$

B. $3xy - 15x$

C. $15x - 3xy$

D. $-15x - 3xy$

2. $(3x+1)x - 3x(4x-5) =$

A. $-9x^2 + 16x$

B. $9x^2 - 16x$

C. $-15x^2 + 14x$

D. $15x^2 - 14x$

3. Assertion (A): The length and breadth of a rectangular field are $(3b+7ac)$ cm and $(3b-7ac)$ cm respectively. Then area is $(9b^2 - 49a^2c^2)$ sq. cm.

Reason (R): $(a+b) \times (a-b) = a^2 - b^2$

4. Assertion (A): The area of square park is $(9x^2 - 56xy + 16y^2)$ m² then each side of the park is $(3x+4y)$ m.

Reason (R): Area of square = $(\text{side})^2$

5. $\left(\frac{1}{x} + \frac{1}{y}\right) \left(\frac{1}{x} - \frac{1}{y}\right) = ?$

a) $\left(\frac{1}{x^2} - \frac{1}{y^2}\right)$ b) $\left(\frac{1}{x^2} + \frac{1}{y^2}\right)$ c) $\left(\frac{1}{x^2} + \frac{1}{y^2} - \frac{1}{xy}\right)$

d) $\left(\frac{1}{x^2} - \frac{1}{y^2} + \frac{1}{xy}\right)$

For 3 and 4 options are

a) Both A and R are true and R is correct explanation of A

b) Both A and R true but R is not correct explanation of A

c) A true R false

d) A false R true

CASE STUDY

1. **Read the statement carefully and answer the questions given below :**

The perimeter of a rectangular park is 242 m and its length and breadth are $(5x + 6)$ m and $(2x + 66)$ m respectively.

- (a) Write the algebraic expressions which represent

the perimeter and area of the given rectangular park.

- (b) Find the value of x .
(c) Find the length, breadth and area of the park.
(d) Find the cost of fencing the park, if the rate of fencing is Rs $3x/\text{m}$.



2. A playground is in shape of a square whose area is 256 m^2 with each side $(5x - 4)\text{m}$. One day Raj along with his two friends Ajay and Aman went to play there with bicycle. Someone stole Raj's bicycle, but Jay and Anu helped him by contributing $\text{₹}(4a + 60)$ and $\text{₹}(6a + 10)$ respectively to buy a new bicycle. The cost of bicycle was $\text{₹}4200$.

On basis of this information given in passage answer following questions:

- (a) Find the value of x .
- (b) What are the algebraic expression of the area of the ground and the total cost of the bicycle?
- (c) What is the value of a ?
- (d) What was the amount given by Jay and Anu to Raj?
- (e) What is the perimeter of the playground in terms of x ?



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