

Revision Test

Date: 29/01/26

Chapters: Polynomials, Linear eqn. in two variables

F.M. - 16

Time - 40 minutes

[A] Choose the correct option :- $(1 \times 3 = 3)$

<1> If a linear equation has solutions $(-2, 2), (0, 0)$ and $(2, -2)$, then its equation is —

- (a) $y - x = 0$ (b) $x + y = 0$ (c) $-2x + y = 0$ (d) $-x + 2y = 0$

<2> If $x^51 + 51$ is divided by $(x+1)$, then the remainder is —

- (a) 0 (b) 1 (c) 49 (d) 50

<3> If $x^{\frac{1}{3}} + y^{\frac{1}{3}} + z^{\frac{1}{3}} = 0$, then —

- (a) $x^3 + y^3 + z^3 = 0$ (b) $x^3 + y^3 + z^3 = 27xyz$
(c) $(x+y+z)^3 = 27xyz$ (d) $x+y+z = 3xyz$

[B] Assertion-Reason based questions :- $(1 \times 2 = 2)$

<1> Assertion (A): The value of $(27)^3 - (15)^3 - (12)^3$ is 14580
Reason (R): $(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$

<2> Assertion (A): For all values of k , $(-\frac{3}{2}, k)$ is a solution of the linear equation $2x + 3 = 0$

Reason (R): The linear equation $ax + b = 0$ can be expressed as a linear equation in two variables as $ax + y + b = 0$.

[C] Short Answer Type Questions :- (3 × 2 = 6)

(1) If $x = (2p+1)$ and $y = (p-1)$ is a solution of the linear equation $2x - 3y + 5 = 0$, then find the value of p . Also check whether $(-4\sqrt{3}, -\sqrt{3})$ is a solution of the equation or not. $2+1=3$

(2) Factorize the following: $1.5 \times 2 = 3$

(a) $8a^3 - 27b^3 + 64c^3 + 72abc$

(b) $(2x-5y)^3 - (2x+5y)^3$

[D] Long Answer Type Question :- [5]

(a) The polynomials $x^3 + 2x^2 - 5ax - 8$ and $x^3 + ax^2 - 12x - 6$ when divided by $(x-2)$ and $(x-3)$ leave the remainders p and q respectively. If $q - p = 10$, find the value of a . 3

(b) If $x = \frac{1}{x-5}$, find the value of $(x^2 + \frac{1}{x^2})$. 2