



Note:

- (1) Read the questions properly before you answer
- (2) Write applicable identities wherever necessary
- (3) Mention all the steps and quote examples wherever in your answer.
- (4) Mind choices
- (5) Student must solve unattended questions and questions with incorrect answer

Areas of improvement:

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Maximum Marks	29
Marks Obtained	
%	

Previous Performance(PP):

Date	Subject	Chapter	Marks	%

Parent Signature	Parent Signature



Section A

[1 x 15 = 15]

1. $a(b + c) = ab + ac$ is

- (a) commutative property (b) distributive property
(c) associative property (d) closure property

2. The product of a monomial and a binomial is a

- (a) monomial (b) binomial (c) trinomial (d) none of these

3. In a polynomial, the exponents of the variables are always

- (a) integers (b) positive integers
(c) non-negative integers (d) non-positive integers

4. The sum of $-7pq$ and $2pq$ is

- (a) $-9pq$ (b) $9pq$ (c) $5pq$ (d) $-5pq$

5. If we subtract $-3x^2y^2$ from x^2y^2 , then we get

- (a) $-4x^2y^2$ (b) $-2x^2y^2$ (c) $2x^2y^2$ (d) $4x^2y^2$

6. Like the term as $4m^3n^2$ is

- (a) $4m^2n^2$ (b) $-6m^3n^2$ (c) $6pm^3n^2$ (d) $4m^3n$

7. Which of the following is a binomial?

- (a) $7 \times a + a$ (b) $6a^2 + 7b + 2c$
(c) $4a \times 3b \times 2c$ (d) $6(a^2 + b)$

8. Sum of $a - b + ab$, $b + c - bc$ and $c - a - ac$ is

- (a) $2c + ab - ac - bc$ (b) $2c - ab - ac - bc$
(c) $2c + ab + ac + bc$ (d) $2c - ab + ac + bc$

9. The volume of a rectangular box (cuboid) with length = $2ab$, breadth = $3ac$, and height = $2ac$ is

- (a) $12a^3bc^2$ (b) $12a^3bc$ (c) $12a^2bc$ (d) $2ab + 3ac + 2ac$

10. Product of $6a^2 - 7b + 5ab$ and $2ab$ is

- (a) $12a^3b - 14ab^2 + 10ab$ (b) $12a^3b - 14ab^2 + 10a^2b^2$
(c) $6a^2 - 7b + 7ab$ (d) $12a^2b - 7ab^2 + 10ab$



11. Square of $3x - 4y$ is

(a) $9x^2 - 16y^2$

(b) $6x^2 - 8y^2$

(c) $9x^2 + 16y^2 + 24xy$

(d) $9x^2 + 16y^2 - 24xy$

12. On dividing $57p^2qr$ by $114pq$, we get

(a) $\frac{1}{4} pr$

(b) $\frac{3}{4} pr$

(c) $\frac{1}{2} pr$

(d) $2pr$

13. On dividing $p(4p^2 - 16)$ by $4p(p - 2)$, we get

(a) $2p + 4$

(b) $2p - 4$

(c) $p + 2$

(d) $p - 2$

14. The value of $(a + b)^2 + (a - b)^2$ is

(a) $2a + 2b$

(b) $2a - 2b$

(c) $2a^2 + 2b^2$

(d) $2a^2 - 2b^2$

15. The value of p for $51^2 - 49^2 = 100p$ is 2. Is the given statement true or false?

Section B

[2 x 4 = 8]

16.

(i) Take away $-3x^3 + 4x^2 - 5x + 6$ from $3x^3 - 4x^2 + 5x - 6$

(ii) Take $m^2 + m + 4$ from $-m^2 + 3m + 6$ and the result from $m^2 + m + 1$.

17. If $x = 6a + 8b + 9c$; $y = 2b - 3a - 6c$ and $z = c - b + 3a$; find $3y - 2z - 5x$

18. Add the following algebraic expressions:

$$\frac{7}{2}x^3 - \frac{1}{2}x^2 + \frac{5}{3}, \frac{3}{2}x^3 + \frac{7}{4}x^2 - x + \frac{1}{3}, \frac{3}{2}x^2 - \frac{5}{2}x - 2$$

19. Express the product as monomials and verify the result for $x = 1, y = 2$

$$\left(\frac{4}{9}abc^3\right) \times \left(-\frac{27}{5}a^3b^2\right) \times (-8b^3c)$$



Section C

[3 x 2 = 6]

(Attend any two questions only)

20. Simplify: $(x^3 - 2x^2 + 3x - 4)(x - 1) - (2x - 3)(x^2 - x + 1)$

21. Using suitable identities, evaluate the following.

(i) $(339)^2 - (161)^2$

(ii) $(9.9)^2$

(iii) $(x^2y - xy^2)^2$

22. If the area of a rectangle is $8x^2 - 45y^2 + 18xy$ and one of its sides is $4x + 15y$, find the length of the adjacent side.