

ALGEBRAIC EXPRESSIONS**Concepts : Expression formation, Terms, Factors and Coefficients of the Term.****Choose the one correct :**

1. The coefficient of x^2 in $3x^2 + 5xy - 2z$ is _____
(A) $2z$ (B) 3 (C) 5 (D) -2
2. The factors of the term $-30xy^2$ are
(A) $-5 \times 2 \times 3 \times x \times y$ (B) $-6 \times 5x^2y$ (C) $-2 \times 3 \times 5 \times x \times y \times y$ (D) All of the above
3. Which one among the following statements is correct ?
(A) The word variable means something that is fixed.
(B) The value of the constant which satisfies the equation is called a solution of the equation
(C) An expression with a variable, constant and the sign of equality is called an algebraic expression.
(D) The definite value of the variable which satisfies the equation is called the solution of the equation.
4. In algebra, letter may stand for _____
(A) Unknown quantities (B) Known quantities
(C) Fixed numbers (D) All the above
5. Choose the correct algebraic expression for the condition given below, multiply a number (say k) by 7 and the result is subtracted from 5 ?
(A) $7k - 5$ (B) $5 - 7k$ (C) $5k - 7$ (D) $7 - 5k$

Subjective Type :-

6. Write the algebraic expression for each phrase
(i) a number 'b' divided by thirty-six
(ii) the total of twenty-four and a number 'x'
(iii) the difference between eighteen and a number 'm'
(iv) the product of a number z and eighty-four
7. Identify the terms and their factors in the following expressions (show the terms and factors by tree diagrams)
(i) $5x - 4$ (ii) $11 + x + 2x^2$ (iii) $z - z^4$
(iv) $-ab + 3b^2 - 7a^2$ (v) $xy + 2x^2y^2$
8. Identify the numerical co-efficients of terms (other than constants) in the following expressions :-
(i) $8 - 4t^2$ (ii) $1 + z + z^2 + z^3$ (iii) $19xy^2 + 25$
(iv) $8 + x + xy$ (v) $9z + zx^2$

ALGEBRAIC EXPRESSIONS

Concepts : *Like and Unlike Terms, Monomials, Binomials, Trinomials & Polynomials.*

1. Which among the following statements is not true ?
 (A) The terms with different algebraic factors are called unlike terms
 (B) Numerical coefficient in any term of a polynomial is called numerical coefficient or coefficient of the term.
 (C) Every polynomial is a binomial
 (D) The value of a variable is not fixed
2. Which one of the following is not a pair of like terms ?
 (A) $-13xyz^2, 6z^2xy$ (B) $3x^2yz^2, -3yx^2z^2$ (C) $7x^3yz^2, 3xz^2y^3$ (D) $9xy^3z^2, 2z^2xy^3$
3. Which among the following expression is not a polynomial ?
 (A) 1 (B) $1 + \frac{1}{x}$ (C) $x + 1$ (D) $\frac{x^3}{x^2}$
4. The expression $(5m - n + 5) - (m - n)$ is a _____
 (A) Monomial (B) Trinomial (C) Binomial (D) Quadrinomial
5. Which one among the following statements is incorrect ?
 (A) An expression having only two terms is called a binomial.
 (B) A symbol having a fixed numerical value is called a constant.
 (C) Terms in an algebraic expression are connected by operator + or –
 (D) $x + 3$ is an example of a monomial.

Subjective Type :-

6. State whether a given terms is of like or unlike terms :-
 (i) 11, 90 (ii) $-5x, \frac{9}{2}x$ (iii) $-39x, -49y$
 (iv) $29xy, 24yx$ (v) $16m^2p, 16mp^2$ (vi) $12yz, 12y^2z^2$
7. Classify into monomials, binomials and trinomials :-
 (i) $5y - 7z$ (ii) z^3 (iii) $p + q - pq$ (iv) 101
 (v) $xy - x - y$ (vi) $9 - 9t$ (vii) $16x^2y - 16xy^2$ (viii) $16mn$
 (ix) $k^2 - 11k + 18$ (x) $p^2 + q^2$ (xi) $r^2 + r$ (xii) $36 + m + n^2$
8. Identify like terms in the following :-
 (i) $15x^2, 3x, 49, -2x^2, 6x, 4p, -2x^2y, 4x^3y, 6xy^3, 4x^2y, -10x^3y^3$
 (ii) $2x + 19a, 8y + 5, -9x + 24a, -4y + 1, 32a^2 + 9a^3, 12r - 12s$

9. Identify terms which contain x and give the coefficient of x :-

(i) $z^2x + z$ (ii) $25y^2 - 14xy$ (iii) $x + p + 4$

(iv) $p + 1 + xy$ (v) $25xy^2 + y^2 + y$

10. Identify terms which contain y^2 and give the coefficient of y^2 .

(i) $18 - 2xy^2$ (ii) $48x^2y - 35py^2 + 7y^2$

(iii) $19y^2 + xy + z$ (iv) $1 + y^2 + 2y^3$

(v) $-4y^2 + 1 + z^3y$

ALGEBRAIC EXPRESSIONS**Concepts : *Value of an Expression.***

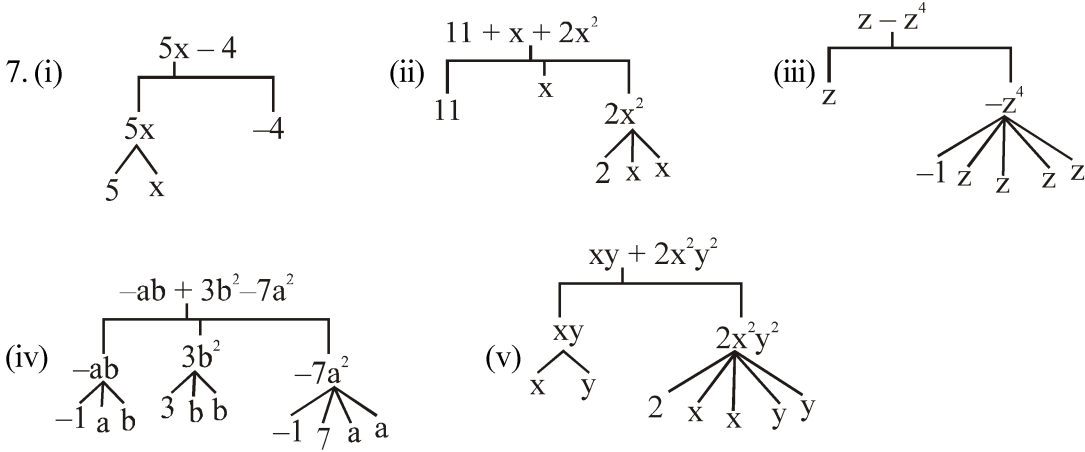
1. Find the values of following expressions when $n = -1$
 - (i) $4n - 1$
 - (ii) $4n^2 + 8n - 2$
 - (C) $19 - 5n^2$
 - (iv) $4n^2 + 5n^3 - 5n + 11$
 - (v) $150 - 150n^3$
2. Find the values of the following expressions when $x = 3$
 - (i) $x + 4$
 - (ii) $5x + 49$
 - (iii) $-15x^2 + 9x - 6$
 - (iv) $-x^3 - x^2 - x - 1$
 - (v) $-9x^3 + 2x^2 + 11$
3. Find the values of the following expressions when $y = -2$
 - (i) $4y + 7$
 - (ii) $-3y^2 + 4y + 17$
 - (iii) $-2y^3 - 3y^2 + 4y + 7$
 - (iv) $2y^2 + y^2 + 1$
 - (v) $2 - 2y + 8y^2$
4. Simply the expressions and find the values if $x = 1$, $a = -1$, $b = -2$
 - (i) $3x - 5 - x + 9$
 - (ii) $2 - 8x + 13x + 4$
 - (iii) $4a + 5 - 8a^2 + 1$
 - (iv) $10 - 12b - 14 - 15b^2$
 - (v) $b^3 - 3a^2 + 4x - 15$
5.
 - (i) If $z = 5$ then find the value of $z^3 - 3(z - 5)$
 - (ii) If $p = -10$ then find the value of $2p^2 - 4p - 125$

ANSWER KEY

DWP - 01

1. B 2. C 3. D 4. A 5. B

6. (i) $b \div 36$ (ii) $24 + x$ (iii) $m - 18$ (iv) $z \times 84$



Expression	Terms	Coefficients
1. $8-4t^2$	$-4t^2$	-4
2. $1+z+z^2+z^3$	z z^2 z^3	1 1 1
3. $19xy^2+25$	$19xy^2$	19
4. $8+x+xy$	x xy	1 1
5. $9z+zx^2$	$9z$ zx^2	9 1

8.

DWP - 02

1. C 2. C 3. B 4. C 5. D

6. (i) Like (ii) Like (iii) Unlike (iv) Like (v) Unlike (vi) Unlike

7. (i) Binomial (ii) Monomial (iii) Trinomial (iv) Monomial (v) Trinomial (vi) Binomial
(vii) Binomial (viii) Monomial (ix) Trinomial (x) Binomial (xi) Binomial (xii) Trinomial

8. (i) $15x^2$ and $-2x^2$; $3x$ and $6x$; $-2x^2y$ and $4x^2y$; $4x^3y^3$ and $-16x^3y^3$
(ii) $2x + 19a$ and $-9x + 24a$; $8y + 5$ and $-4y + 1$

Expression	Terms with x	Coefficient of x
1. z^2x+z	z^2x	z^2
2. $25y^2-14xy$	$-14xy$	$-14y$
3. $x+p+4$	x	1
4. $p+1+xy$	xy	y
5. $25xy^2+y^2+y$	$25xy^2$	$25y^2$

9.

10.

Expression	Terms with x^2	Coefficient of x^2
1. $18-2xy^2$	$-2xy^2$	$-2x$
2. $48x^2y-35y^2+7y^2$	$-35y^2$ $7y^2$	-35 7
3. $19y^2+xy+2$	$19y^2$	19
4. $1+y^2+2y^3$	y^2	1
5. $-4y^2+1+z^3y$	$-4y^2$	-4

DWP - 03

1.	(i) -5	(ii) -6	(iii) 14	(iv) 15	(v) 300
2.	(i) 7	(ii) 64	(iii) -114	(iv) -40	(v) -214
3.	(i) -1	(ii) -3	(iii) 3	(iv) 13	(v) 38
4.	(i) 6	(ii) 11	(iii) -6	(iv) -40	(v) -22
5.	(i) 125	(ii) 115			