Estd.1411 TE/2011 AD
Regn. No. : 3835/2001

GARIA ACADEMY (Model)

An English Medium Co-Educational Secondary School
Affiliated to Central Board of Secondary Education, New Delhi (No. 2030015)
Managed by **BABA GARIA MISSION** (RN 3835/2001) and under overall supervision of
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Ch-8 Exercise - 8B P-132.

(4.) Write the coefficient of.

(i) x in $13x$

= The coefficient of x in $13x$ is $\underline{13}$.

(ii) y in $-5y$

= The coefficient of y in $-5y$ is $\underline{-5}$

(iii) a in $6ab$

= The coefficient of a in $6ab$ is $\underline{6b}$

(vi) y^2 in $8xy^2z$

= The coefficient of y^2 in $8xy^2z$ is $\underline{8xz}$

(viii) x^2 in $-x^2$

= The coefficient of x^2 in $-x^2$ is $\underline{-1}$.

(5) Write the numerical coefficient of.

(i) ab

= The numerical coefficient of ab is 1.

(ii) $-6bc$

= The numerical coefficient of $-6bc$ is -6

(iii) $7xyz$

= The numerical coefficient of $7xyz$ is 7

(6.) Write the constant term of.

(i) $3x^2+5x+8$

= The constant term is 8

(ii) $2x^2-9$

= The constant term is -9

(iii) $4y^2-5y+\frac{3}{5}$

= The constant term is $\frac{3}{5}$

(iv) $z^3-2z^2+z-\frac{8}{3}$

= The constant term is $-\frac{8}{3}$

(7.) Identify the monomials, binomials and trinomials in the following:

(i) $-2xyz$ = Monomial

(ii) $5+7x^3y^3z^3$ = Binomial

(iii) $-5x^3$ = Monomial

(iv) $a+b-2c$ = Trinomial

(v) $xy+yz-zx$ = Trinomial

(vi) x^5 = Monomial

(vii) ax^3+bx^2+cx+d = According to question (None)

(viii) -14 = Monomial

(ix) $2x+1$ = Binomial.

(8.) Write all the terms of the algebraic expressions.

(i) $4x^5-6y^4+7x^2y-9$

Terms :- $4x^5, -6y^4, 7x^2y, -9.$

(ii) $9x^3-5z^4+7x^3y-xyz$

Terms :- $9x^3, -5z^4, 7x^3y, -xyz$

9. Identify the like terms in the following.

(i) $a^2, b^2, -2a^2, c^2, 4a$

= Like terms :- $a^2, -2a^2$

(ii) $3x, 4xy, -yz, \frac{1}{2}zy$

= Like terms :- $-yz, \frac{1}{2}zy$

(iii) $-2xy^2, x^2y, 5y^2x, x^2z$

= Like terms :- $-2xy^2, 5y^2x$.

(iv) $abc, ab^2c, acb^2, c^2ab, b^2ac, a^2bc, cab^2$

= Like terms :-

$ab^2c, acb^2, b^2ac, cab^2$

Exercise 8c P- 134.

1. Add:

(i) $3x, 7x$.

$= 3x + 7x$

$= 10x$

Ans :- $10x$

(ii) $7y, -9y$

$= 7y + (-9y)$

$= 7y - 9y$

$= -2y$.

Ans :- $-2y$

(iii) $2xy, 5xy, -xy$

$= 2xy + 5xy + (-xy)$

$= 7xy - xy$

$= 6xy$.

Ans :- $6xy$

(iv) $3x, 2y$

$= 3x + 2y$.

Ans :- $3x + 2y$

(vi) $7xyz, -5xyz, 9xyz, -8xyz$

$= 7xyz + (-5xyz) + 9xyz + (-8xyz)$

$= 7xyz - 5xyz + 9xyz - 8xyz$

$= 7xyz + 9xyz - 5xyz - 8xyz$

$= 16xyz - 13xyz$

$= 3xyz$ Ans :- $3xyz$

(vii) $6a^3, -4a^3, 10a^3, -8a^3$

$= 6a^3 + (-4a^3) + 10a^3 + (-8a^3)$

$= 6a^3 - 4a^3 + 10a^3 - 8a^3$

$= 6a^3 + 10a^3 - 4a^3 - 8a^3$

$= 16a^3 - 12a^3$

$= 4a^3$ Ans :- $4a^3$

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(2.) Add the following :-

(i) $x - 3y - 2z$
$5x + 7y - z$
$-7x - 2y + 4z$
$-x + 2y + z$

$-3y - 2y = -5y$, $-5y + 7y = +2y$
$x + 5x = 6x$, $6x - 7x = -x$
$-2z - z = -3z$, $-3z + 4z = +z$

Ans :- $-x + 2y + z$

(ii) $m^2 - 4m + 5$
$-2m^2 + 6m - 6$
$-m^2 - 2m - 7$
$-2m^2 \quad -8$

$-6 - 7 = -13$, $-13 + 5 = -8$
$-4m - 2m = -6m$, $-6m + 6m = 0$
$-2m^2 - m^2 = -3m^2$, $-3m^2 + m^2 = -2m^2$

Ans :- $-2m^2 - 8$

(iii) $2x^2 - 3xy + y^2$
$-7x^2 - 5xy - 2y^2$
$4x^2 + xy - 6y^2$
$-x^2 - 7xy - 7y^2$

$+8x^2 + 4x^2 = 6x^2$, $6x^2 - 7x^2 = -x^2$
$-3xy - 5xy = -8xy$, $-8xy + xy = -7xy$
$-2y^2 - 6y^2 = -8y^2$, $-8y^2 + y^2 = -7y^2$

Ans :- $-x^2 - 7xy - 7y^2$

3. Add

(ii) $8a-6ab+5b, -6a-ab-8b, -4a+2ab+3b$

Solution

$$\begin{array}{r} 8a-6ab+5b \\ -6a-ab-8b \\ -4a+2ab+3b \\ \hline -2a-5ab \end{array}$$

$-6a$	$-10a$
$-4a$	$8a$
$-10a$	$-2a$
$-6ab$	$-7ab$
$-ab$	$+2ab$
$-7ab$	$-5ab$
$+5b$	$+8b$
$+3b$	$-8b$
$+8b$	0

Ans: $-2a-5ab$.

(v) $x^3+y^3-z^3+3xyz, -x^3+y^3+z^3-6xyz, x^3-y^3-z^3-8xyz$

Solution

$$\begin{array}{r} x^3+y^3-z^3+3xyz \\ -x^3+y^3+z^3-6xyz \\ x^3-y^3-z^3-8xyz \\ \hline x^3+y^3-z^3-11xyz \end{array}$$

$+x^3$	$+y^3$	$-z^3$
$+x^3$	$+y^3$	$-z^3$
$2x^3$	$+2y^3$	$-2z^3$
$-x^3$	$-y^3$	$+z^3$
x^3	$+y^3$	$-z^3$
$-6xyz$		$+14xyz$
$-8xyz$		$3xyz$
$-14xyz$		$-11xyz$

Ans: $x^3+y^3-z^3-11xyz$

(vi) $2+x-x^2+6x^3, -6-2x+4x^2-3x^3, 2+x^2, 3-x^3+4x-2x^2$

Solution

$$\begin{array}{r} 2+x-x^2+6x^3 \\ -6-2x+4x^2-3x^3 \\ +2 \quad +x^2 \\ +3+4x-2x^2-x^3 \\ \hline 1+3x+2x^2+2x^3 \end{array}$$

2	$+4x$	$+4x^2$	$-x^2$
2	$+x$	$+x^2$	$-2x^2$
$+3$	$+5x$	$+5x^2$	$-3x^2$
7	$-2x$		
-6	$+3x$	$+5x^2$	
1		$-3x^2$	
		$+2x^2$	

$-3x^3$	$+6x^3$
$-x^3$	$-4x^3$
$-4x^3$	$+2x^3$

Ans: $1+3x+2x^2+2x^3$

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(4) Subtract :

(i) $5x$ from $2x$.

$= 2x - 5x$

$= -3x$

Ans : $-3x$

(ii) $-xy$ from $6xy$

$= 6xy - (-xy)$

$= 6xy + xy$ $[(-)\times(-) = +]$

$= 7xy$

Ans : $7xy$

(iii) $3a$ from $5b$

$= 5b - 3a$

Ans : $5b - 3a$

(iv) $-7x$ from $9y$

$= 9y - (-7x)$

$= 9y + 7x$

Ans : $9y + 7x$.

(v) $10x^2$ from $-7x^2$

$= -7x^2 - 10x^2$

$= -17x^2$

Ans : $-17x^2$

(vi) $a^2 - b^2$ from $b^2 - a^2$

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

$= b^2 - a^2 - a^2 + b^2$

$= b^2 + b^2 - a^2 - a^2$

$= 2b^2 - 2a^2$

Ans : $2b^2 - 2a^2$.

(5) Subtract :-

(i) $5a + 7b - 2c$ from $3a - 7b + 4c$.

$= (3a - 7b + 4c) - (5a + 7b - 2c)$

$= 3a - 7b + 4 - 5a - 7b + 2c$

$= 3a - 5a - 7b - 7b + 2c + 4c$

$= -2a - 14b + 2c + 4c$

$= -2a - 14b + 6c$

$-5a$	$-7b$
$+3a$	$-7b$
$-2a$	$-14b$
$+4c$	
$+2c$	
$+6c.$	

(ii) $a - 2b - 3c$ from $-2a + 5b - 4c$

$= (-2a + 5b - 4c) - (a - 2b - 3c)$

$= -2a + 5b - 4c - a + 2b + 3c$

$-2a + 5b - 4c$
$-a + 2b + 3c$
$-3a + 7b - c$

(iv) $6x^3 - 7x^2 + 5x - 3$ from $4 - 5x + 6x^2 - 8x^3$

$= (4 - 5x + 6x^2 - 8x^3) - (6x^3 - 7x^2 + 5x - 3)$

$= 4 - 5x + 6x^2 - 8x^3 - 6x^3 + 7x^2 - 5x + 3$

$= 4 + 3 - 5x - 5x + 6x^2 + 7x^2 - 8x^3 - 6x^3$

$= 7 - 10x + 13x^2 - 14x^3$

$= -10x + 13x^2 - 14x^3 + 7$

Ans :- $-10x + 13x^2 - 14x^3 + 7$

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(6) Simplify:

(i) $2p^3 - 3p^2 + 4p - 5 - 6p^3 + 2p^2 - 8p - 2 + 6p + 8$.

$= 2p^3 - 6p^3 - 3p^2 + 2p^2 + 4p - 8p + 6p - 5 + 8 - 2$

$= -4p^3 - p^2 + 2p + 1$

$+4p$
$+6p$
$+10p$
$-8p$
$+2p$

(ii) $2x^2 - xy + 6x - 4y + 5xy - 4x + 6x^2 + 3y$

$= 2x^2 + 6x^2 - xy + 5xy + 6x - 4x - 4y + 3y$

$= 8x^2 + 4xy + 2x - y$.

(iii) $x^4 - 6x^3 + 2x - 7 + 7x^3 - x + 5x^2 + 2 - x^4$

$= x^4 - x^4 - 6x^3 + 7x^3 + 2x - x - 7 + 2 - x^4$

$= x^3 + x - 5 - x^4$

$+x^4$
$-x^4$
0

Exercise 8D P-136

Simplify

(1) $a-(b-2a)$

$= a-b+2a$

$= 3a-b$

(2) $4x-(3y-x+2z)$

$= 4x-3y+x-2z$

$= 5x-3y-2z$

(3) $(a^2+b^2+2ab)-(a^2+b^2-2ab)$

$= a^2+b^2+2ab-a^2-b^2+2ab$

$= 4ab$

(4) $-3(a+b)+4(2a-3b)-(2a-b)$

$= -3a-3b+8a-12b-2a+b$

$= -3a+8a-2a-3b-12b+b$

$= 3a-15b+b$

$= 3a-14b$

(5) $-4x^2+\{(2x^2-3)-(4-3x^2)\}$

$= -4x^2+\{(2x^2-3-4+3x^2)\}$

$= -4x^2+2x^2-7+3x^2$

$= -4x^2+2x^2+3x^2-7$

$= x^2-7$

(6) $-2(x^2-y^2+xy)-3(x^2+y^2-xy)$

$= -2x^2+2y^2-2xy-3x^2-3y^2+3xy$

$= -2x^2-3x^2+2y^2-3y^2-2xy+3xy$

$= -5x^2-y^2+xy.$

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(7.) $a-[2b-\{3a-(2b-3c)\}]$

$= a-[2b-\{3a-2b+3c\}]$

$= a-[2b-3a+2b-3c]$

$= a-2b+3a-2b+3c$

$= a+3a-2b-2b+3c$

$= 4a-4b+3c.$

(8.) $-x+[5y-\{x-(5y-2x)\}]$

$= -x+[5y-\{x-5y+2x\}]$

$= -x+[5y-x+5y-2x]$

$= -x+5y-x+5y-2x$

$= -x-x-2x+5y+5y$

$= -4x+10y.$

(9.) $86-[15x-7(6x-9)-2\{10x-5(2-3x)\}]$

$= 86-[15x-7(6x-9)-2\{10x-10+15x\}]$

$= 86-[15x-42x+63-20x+20-30x]$

$= 86-[15x-42x-20x-30x+63+20]$

$= 86-[-77x+83]$

$= 86+77x-83$

$= 86-83+77x$

$= 3+77x.$

$-42x$
$-20x$
$-30x$
$-92x$
$+15x$
$-77x$

$+63$
$+20$
83

(10.) $12x-[3x^3+5x^2-\{7x^2-(4-3x-x^3)+6x^3\}-3x]$

$= 12x-[3x^3+5x^2-\{7x^2-4+3x+x^3+6x^3\}-3x]$

$= 12x-[3x^3+5x^2-7x^2+4-3x-x^3-6x^3-3x]$

$= 12x-[3x^3-6x^3-x^3+5x^2-7x^2+4-3x-3x]$

$= 12x-[-4x^3-2x^2+4-6x]$

$= 12x+4x^3+2x^2-4+6x$

$= 12x+6x+2x^2+4x^3-4$

$= 18x+2x^2+4x^3-4$

$-6x^3$
$-x^3$
$-7x^3$
$+3x^3$
$-4x^3$

$-7x^2$
$+5x^2$
$-2x^2$

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(13) $xy-[yz-zx-\{yx-(3y-xz)-(xy-zy)\}]$

$= xy-[yz-zx-\{yx-3y+xz-xy+zy\}]$

$= xy-[yz-zx-yx+3y-xz+xy-zy]$

$= xy-yz+zx+yx-3y+xz-xy+zy$

$= xy+yx-xy-\cancel{yz}+\cancel{zy}+zx+xz-3y$

$= xy+2xz-3y$

$+xy$
$+xy$
$+2xy$
$-xy$
xy

$-yz$
$+yz$
0