# Exercise 8D

## Q1
**Answer:**

a - (b - 2a)

Here, '-' sign precedes the parenthesis. So, we will remove it and change the sign of each term within the parenthesis.

$= a - b + 2a$

$= 3a - b$

## Q2
**Answer:**

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

Here, '–' sign precedes the parenthesis. So, we will remove it and change the sign of each term within the parenthesis.

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

$= 5x - 3y - 2z$

## Q3
**Answer:**

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

Here, '–' sign precedes the second parenthesis. So, we will remove it and change the sign of each term within the parenthesis.

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

Rearranging and collecting the like terms:

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

$= (1 - 1)a^2 + (1 - 1)b^2 + (2 + 2)ab$

$= 0 + 0 + 4ab$

$= 4ab$

## Q4
**Answer:**

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

Here, '–' sign precedes the first and the third parenthesis. So, we will remove them and change the sign

of each term within the two parenthesis.

= −3a − 3b + (4×2a )−(4×3b) − 2a + b

= − 3a − 3b + 8a − 12b − 2a + b

Rearranging and collecting the like terms:

−3a + 8a − 2a − 3b − 12b + b

= (−3 + 8 − 2)a + (−3 − 12 + 1)b

= 3a −14b

## Q5

**Answer :**

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

We will first remove the innermost grouping symbol ( ) and then { }.

$$\therefore -4x^2 + \{(2x^2 - 3) - (4 - 3x^2)\}$$
$$= -4x^2 + \{2x^2 - 3 - 4 + 3x^2\}$$
$$= -4x^2 + \{5x^2 - 7\}$$
$$= -4x^2 + 5x^2 - 7$$
$$= x^2 - 7$$

## Q6

**Answer :**

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

Here a '−' sign precedes both the parenthesis. So, we will remove them and change the sign of each term within the two parenthesis.

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

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

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

## Q7

**Answer :**

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

We will first remove the innermost grouping symbol ( ), followed by { } and then [ ].

$\therefore a - [2b - \{3a - (2b - 3c)\}]$
$= a - [2b - \{3a - 2b + 3c\}]$
$= a - [2b - 3a + 2b - 3c]$
$= a - [4b - 3a - 3c]$
$= a - 4b + 3a + 3c$
$= 4a - 4b + 3c$

## Q8

**Answer :**

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

We will first remove the innermost grouping symbol ( ), followed by { } and then [ ].

$\therefore -x + [5y - \{x - (5y - 2x)\}]$
$= -x + [5y - \{x - 5y + 2x\}]$
$= -x + [5y - \{3x - 5y\}]$
$= -x + [5y - 3x + 5y]$
$= -x + [10y - 3x]$
$= -x + 10y - 3x$
$= - 4x + 10y$

## Q9

**Answer :**

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

We will first remove the innermost grouping symbol ( ), followed by { } and then [ ].

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

= 86 − [15x − 42x + 63 −2{10x − 10 + 15x}]

= 86 − [15x − 42x + 63 −2{25x − 10}]

= 86 − [15x − 42x + 63 −50x + 20]

= 86 − [− 77x + 83 ]

= 86 + 77x − 83

= 77x + 3

Q10

**Answer :**

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

We will first remove the innermost grouping symbol (  ), followed by {  } and then [  ].

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

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

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

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

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

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

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

Q11

**Answer :**

$5a - [a^2 - \{2a(1 - a + 4a^2) - 3a(a^2 - 5a - 3)\}] - 8a$

We will first remove the innermost grouping symbol (  ), followed by {  } and then [  ].

$\therefore 5a - [a^2 - \{2a(1 - a + 4a^2) - 3a(a^2 - 5a - 3)\}] - 8a$

$= 5a - [a^2 - \{2a - 2a^2 + 8a^3 - 3a^3 + 15a^2 + 9a\}] - 8a$

$= 5a - [a^2 - \{5a^3 + 13a^2 + 11a\}] - 8a$

$= 5a - [a^2 - 5a^3 - 13a^2 - 11a] - 8a$

$= 5a - [- 5a^3 - 12a^2 - 11a] - 8a$

$= 5a + 5a^3 + 12a^2 + 11a - 8a$

$= 5a^3 + 12a^2 + 8a$

********** END *********