

## 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.

$$= -3a - 3b + (4 \times 2a) - (4 \times 3b) - 2a + b$$
  
=  $-3a - 3b + 8a - 12b - 2a + b$ 

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:

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:

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86-[15x-7(6x-9)-2\{10x-5(2-3x)\}] We will first remove the innermost grouping symbol ( ), followed by { } and then [ ].
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## 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  $[\ ]$ .

$$\begin{array}{l} \therefore 12x - [3x^3 + 5x^2 - \{7x^2 - (4 - 3x - x^3) + 6x^3\} - 3x] \\ = 12x - [3x^3 + 5x^2 - \{7x^2 - 4 + 3x + x^3 + 6x^3\} - 3x] \\ = 12x - [3x^3 + 5x^2 - \{7x^2 - 4 + 3x + 7x^3\} - 3x] \\ = 12x - [3x^3 + 5x^2 - 7x^2 + 4 - 3x - 7x^3 - 3x] \\ = 12x - [-2x^2 + 4 - 4x^3 - 6x] \\ = 12x + 2x^2 - 4 + 4x^3 + 6x \\ = 4x^3 + 2x^2 + 18x - 4 \end{array}$$

## Q11

#### Answer:

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

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

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

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

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

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

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

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

\*\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*