

1. By looking at given Algebraic expression, Encircle 'yes' or 'No'.

(i) 9 is the coefficient of y^2 .

Yes / No

$$3y^2 - 9z + 11$$

ii) '-' & '+' are algebraic operators.

Yes / No

iii) 'y' is the base having exponent as 3.

Yes / No

iv) 11 is the constant.

Yes / No

2. Sara's teacher asked her to separate the true & false statements about the algebraic expression given below. Drag the statements in their correct box.

$$-9y^2 + 3x - 5$$

(i) $-9y^2$, $+3x$ & -5 are terms of given expression.

(ii) Exponent of x is 3.

(iii) Base having 2 as exponent is y .

(iv) Coefficient of y^2 is -5 .

True statement (s)

False statement (s)

3. Algebra discs can be used to simplify the algebraic expressions. In number discs $+1$ & -1 form zero pair (whose sum is zero). In Algebra ' x ' & ' $-x$ ' form a zero pair. Tick yes or no, for the algebraic expression & its simplification.

Expression: $3x + 1 - 2x$ Answer: $x + 1$	Expression: $4x + 2x$ Answer: $6x$ yes/No	Expression: $-4x + 4x$ yes/No Answer: Zero yes /No
Expression: $-4x - 1 + 2x + 1$ yes/No Answer: $-2x - 2$ yes/No	Expression: $-4x + 4x$ yes/No Answer: $8x$ yes /No	

4. Match the expression with its correct number of terms.

Algebraic expression	Number of terms
(i) $xyz + 3y + 4$	2
(ii) $y \times c \div z^2$	3
(iii) $p + q \div r - x + y \times z$	1
(iv) $-9x + 3yz$	4

5 Choose the algebraic expressions from following.

$78 + y = 98$, y^2 , $y + y + y$, $9y^0$, $y < 6$, $\frac{xy}{6}$

2. Drag the words from word bank to fill in the blanks.

(i) The parts of algebraic expression separated by addition and subtraction sign are known as _____.

(ii) _____ is the changeable quantity.

(iii) In $3y + 9$, 3 is _____ of 'y'.

(iv) In $y^2 - 5$, 2 is the _____ of variable 'y'.

Word Bank

• Coefficient

Constant

Terms

Variable

Exponent

3. Tick whether each of the following pairs of terms are like or unlike

(i) -3 , $-3z$ like terms , unlike terms

(ii) $5y^2$, $-\frac{4}{7}y^2$ like terms , unlike terms

(iii) $3y$, $3z$ like terms , unlike terms

(iv) $+8$, $+7$ like terms , unlike terms

5. Choose the correct option of solution for each of following.

(i) Sum of $x^2 + 5x + 3$ & $-2x^2 - 5x - 5$

$$\begin{aligned}(x^2 + 5x + 3) + (-2x^2 - 5x - 5) \\&= x^2 + 5x + 3 - 2x^2 - 5x - 5 \\&= x^2 - 2x^2 + 5x - 5x + 3 - 5 \\&= -x^2 - 2\end{aligned}$$

Option 1

$$\begin{aligned}(x^2 + 5x + 3) - (-2x^2 - 5x - 5) \\&= x^2 + 5x + 3 - 2x^2 + 5x + 5 \\&= x^2 - 2x^2 + 5x + 5x + 5 + 3 \\&= -x^2 + 10x + 8\end{aligned}$$

Option 2

(ii) subtract $x^2 + 5x + 3$ from $-2x^2 - 5x - 5$

$$\begin{aligned}(x^2 + 5x + 3) - (-2x^2 - 5x - 5) \\&= x^2 + 5x + 3 + 2x^2 + 5x + 5 \\&= x^2 + 2x^2 + 5x + 5x + 5 + 3 \\&= 3x^2 + 10x + 8\end{aligned}$$

Option 1

$$\begin{aligned}(-2x^2 - 5x - 5) - (x^2 + 5x + 3) \\&= -2x^2 - 5x - 5 - x^2 - 5x - 3 \\&= -x^2 - 2x^2 - 5x - 5x - 5 - 3 \\&= -3x^2 - 10x - 8\end{aligned}$$

Option 2

(iii) If $A = 2a - 3b$, $B = b - a$ & $C = 2b$ then evaluate $A + B - C$.

$$\begin{aligned}A + B - C &= (2a - 3b) + (b - a) - (2b) \\&= 2a - 3b + b - a - 2b \\&= 2a - a - 3b + b - 2b = a - 2b - 2b = a - 4b\end{aligned}$$

Option 1

$$\begin{aligned}A + B - C &= (2a - 3b) + (b - a) + (2b) \\&= 2a - 3b + b - a + 2b \\&= 2a - a - 3b + b + 2b = a - 2b + 2b = a\end{aligned}$$

Option 2