



# INDIAN SCHOOL AL WADI AL KABIR

**Class VII**, Mathematics

## Algebraic Expressions- *Worksheet- 2*

07-02-2021

### OBJECTIVE TYPE (1 Mark)

<b>Q.1.</b>	The variable in the expression $2x - 3$ is							
	<b>A</b>	2	<b>B</b>	x	<b>C</b>	3	<b>D</b>	-3
<b>Q.2.</b>	The constant term in the expression $4x + y + 8$ is							
	<b>A</b>	4	<b>B</b>	1	<b>C</b>	8	<b>D</b>	x
<b>Q.3.</b>	The numerical coefficient in the term $6x^2y$							
	<b>A</b>	$x^2$	<b>B</b>	2	<b>C</b>	y	<b>D</b>	6
<b>Q.4.</b>	The sum of $(2ab - 3ab)$ and $(4ab + ab)$							
	<b>A</b>	4ab	<b>B</b>	2ab	<b>C</b>	ab	<b>D</b>	5ab
<b>Q.5.</b>	The expression $3x^2 + 5x - 7$ is a							
	<b>A</b>	binomial	<b>B</b>	monomial	<b>C</b>	trinomial	<b>D</b>	equation
<b>Q.6.</b>	Which of the following forms a pair of like terms?							
	<b>A</b>	$6x, 6xy$	<b>B</b>	$x^2y, xy^2$	<b>C</b>	$pqr, pq$	<b>D</b>	$3pq, -pq$
<b>Q.7.</b>	The term containing the factor y in the expression $3x - 12xy$ is							
	<b>A</b>	12xy	<b>B</b>	$-12xy$	<b>C</b>	$-12x$	<b>D</b>	3x
<b>Q.8.</b>	The value of the expression $2a + 5b$ when $a = 1$ and $b = -2$ is							
	<b>A</b>	-8	<b>B</b>	7	<b>C</b>	3	<b>D</b>	-3
<b>Q.9.</b>	The expression for 'the product of x and y subtracted from two times y' is							
	<b>A</b>	$xy - 2y$	<b>B</b>	$2y - x$	<b>C</b>	$x - 2y$	<b>D</b>	$2y - xy$
<b>Q.10</b>	The coefficient of p in the term $4pq^2$							
	<b>A</b>	$4q^2$	<b>B</b>	4p	<b>C</b>	$pq^2$	<b>D</b>	4pq

<b>Fill in the blanks (1 mark)</b>	
Q11.	A _____ has no fixed value.
Q12.	The terms $abc$ , $10abc$ , $-19abc$ are _____ terms.
Q13.	The expression for 'twelve subtracted from one-fourth of $ab$ ' is _____
Q14.	The polynomial $x^2 + 2x$ is a _____.
Q15.	Raju's father is 3 years older than three times Raju's age. If Raju is $x$ years old, his father's age will be _____
<b>Section B (2 marks)</b>	
Q16.	Simplify by combining the like terms: $4y + 3xyz - 12 - (14y - xyz - 12)$
Q17.	Add: $abc - 10ab$ , $4abc - 20$ , $8ab + 10$
Q18.	Find the value of the expression $a^2 + 2ab + b^2$ when $a = -1$ and $b = -1$
Q19.	Simplify and find the value of the expression when $a = -1$ , $b = -3$ i) $12ab - a(b - a)$ ii) $2a + 4(b - a) - 4b$
Q20.	Write an algebraic expression in the following cases using variables, constant and arithmetic operations: i) one-fifth of the product of $a$ and $b$ subtracted from the number 15. ii) the sum of $x$ and $y$ subtracted from 3 times their product.
<b>Section C (4 Marks)</b>	
Q21.	Identify the terms and write the factors of $14pq + 21q^2 - 11$ . Show the factors using a tree diagram.
Q22.	<b>Case Study:</b> In a garden, roses and marigolds are planted in square plots. The side of the square plot in which marigold is planted is 5 m longer than the side of the square plot in which the roses are planted. Let the length of the square plot in which roses are planted be $l$ . Find in terms of $l$ i) side of the square plot in which marigold is planted. ii) Area of the square plot in which roses are planted. iii) Area of the square plot in which marigold is planted. iv) how much bigger in area is the marigold square plot than the square plot of roses.
Q23.	What should be added to $p^2q - 2pq$ to get $11p^2q^2 + 10pq - 4p^2q$

**Q24.** **Case Study:** Renu's mother is 7 years more than three times Renu's present age. Renu's father is 6 years older than her mother. Renu's younger brother Rohan is 2 years younger than her. Based on this information, answer the following questions. Take Renu's present age to be  $r$  years.

i) What is Renu's mother's present age in terms of  $r$ ?

ii) What was Renu's age 4 years back?

iii) Express Rohan's present age in terms of  $r$ .

iv) write the father's present age in terms of Renu's age.

**Q25.** If  $A = 2x^2 + 12xy + 7y^2$ ,  $B = 15y^2 - 24x^2$  and  $C = 12xy$ . Find the value of

i)  $A + B - C$

ii)  $A - B - C$

<b>Answers</b>	<b>1</b>	B. $x$	<b>2</b>	C. 8	<b>3</b>	D. 6	<b>4</b>	A. $4ab$
	<b>5</b>	C. trinomial	<b>6</b>	D. $3pq, -pq$	<b>7</b>	B. $-12xy$	<b>8</b>	A. $-8$
	<b>9</b>	D. $2y - xy$	<b>10</b>	A. $4q^2$	<b>11</b>	variable	<b>12</b>	Like terms
	<b>13</b>	$\frac{1}{4}ab - 12$	<b>14</b>	binomial	<b>15</b>	$3x + 3$	<b>16</b>	$-10y + 4xy^2$
	<b>17</b>	$5abc - 2ab - 10$	<b>18</b>	4	<b>19</b>	24	<b>20</b>	i) $15 - \frac{1}{5}ab$ ii) $3xy - (x+y)$
	<b>21</b>	Terms: $14pq, 21q^2, -11$ Factors of $14pq$ are $14, p, q$ Factors of $21q^2$ are $21, q, q$	<b>22</b>	i) $1 + 5$ ii) $1^2$ sq. m iii) $(1+5)^2$ sq. m iv) $(1+5)^2 - 1^2$ sq. m	<b>23</b>	$11p^2q^2 + 12pq - 5p^2q$	<b>24</b>	i) $3r + 7$ ii) $r - 4$ iii) $r - 2$ iv) $3r + 13$
	<b>25</b>	i) $-22x^2 + 22y^2$ ii) $26x^2 - 8y^2$						

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