


INDIAN SCHOOL AL WADI AL KABIR (2023-24)

Class VIII, Mathematics

WORKSHEET (OTQ) – Algebraic Expressions and Identities

Multiple Choice Questions

Q.1.	Which of the following is the numerical coefficient of $-6x^2y^2$						
A	6	B	-6	C	x^2	D	$2x^2$
Q.2.	The product of $3xy^2z$ and $4x$ is						
A	$3x^2y^2z$	B	$12xy^2z$	C	$12x^2y^2z$	D	$3xy^2z + 4x$
Q.3.	Which of the following is a like term as $8xy$?						
A	$-83xy^2z$	B	$33yx$	C	$5x$	D	$8xy^2$
Q.4.	If we add, $7xy + 5yz - 3zx$, $4yz + 9zx - 4y$ and $-3xz + 5x - 2xy$, then the answer is						
A	$5xy + 9yz + 3zx + 5x - 4y$	B	$5xy - 9yz + 3zx - 5x - 4y$	C	$5xy + 10yz + 3zx + 15x - 4y$	D	$5xy + 10yz + 3zx + 5x$
Q.5.	If we subtract $4a - 7ab + 3b + 12$ from $12a - 9ab + 5b - 3$, then the answer is:						
A	$8a + 2ab + 2b + 15$	B	$8a + 2ab + 2b - 15$	C	$8a - 2ab + 2b - 15$	D	$8a - 2ab - 2b - 15$
Q.6.	The value of $x^2 - 2x + 1$ when $x = 1$ is						
A	0	B	4	C	3	D	5
Q.7.	Factors of the terms $-4pq^2$ in the expression $ap^2q^2 - 4pq^2$ are						
A	-4,p,q,q	B	-4,p,q	C	-4,p,p,q	D	4,p,q
Q.8.	If $ab = 6$ and $a + b = 5$, then the value of $a^2 + b^2$ is						
A	11	B	12	C	13	D	16
Q.9.	The expression $x^2 - \frac{y^2}{100}$ is equal to						
A	$(x - \frac{y}{100})(x - \frac{y}{100})$	B	$(x + \frac{y}{100})(x + \frac{y}{100})$	C	$(x - \frac{y}{100})(x + \frac{y}{100})$	D	$(x - \frac{y}{10})(x + \frac{y}{10})$
Q.10	Which identity is best used to solve 194×206						
A	$(a + b)^2$	B	$a^2 - 2ab + b^2$	C	$(x + a)(x + b)$	D	$a^2 - b^2$

	Source-based question: (CBQ)			
	A pit was excavated for building a multi-story parking lot. The height is 6 m greater than the base's width, and the base's length is 25 m larger than its width.			
Q.11	If we let the base width be x , the expression represents the area of the base of the pit is			
	A	$(x + 25)^2$	B	$(9x)^2 + 25$
	C	$x^2 + 25x$	D	$x + 25x$
Q.12	Which expression represents the volume of the pit?			
	A	$(x + 25)x(x + 6)$	B	$(x + 25x)(x+6)$
	C	$(x + 25)$	D	$x + 25x$
Q.13	the volume of the pit, if $x = 5$ cm.			
	A	1050cm^3	B	1550cm^3
	C	1650cm^3	D	165cm^3
Q.14	In a rectangular plot, 5 square flower beds of side $(x + 2)$ m each has been laid. What will be the total cost of fencing the flower beds at ₹5 per metre?			
	A	₹ $(100x + 200)$	B	₹ $(10x + 20)$
	C	₹ $(10x + 20)$	D	₹ $(20x + 20)$
Q.15	A playground is circular with an area of $9 - 3x^2$. A rectangular basketball court with a length of $2x$ and a width of $(x + 3)$ is located within the playground, an expression for the playground area that excludes the basketball court.			
	A	$x^2 + 6x$	B	$x^2 + 9$
	C	$-5x^2 - 6x + 9$	D	$-x + 6x + 9$
	CASE STUDY:			
	Restoration is a repair process in which a house or a building is returned to its original condition. Restoration normally involves repairing damages in walls, repairing or replacing old equipment, removing old carpets and refinishing floors with materials and processes used to make the original form.			
Q.16	A contractor offers to remove the old carpet at ₹10 per m^2 from a room x m wide and y m long. Write expression gives the total cost of removing the old carpet from the room.			
Q.17	If it took ' z ' hours to labour for fitting the carpet, their charges are ₹50 per hour. The cost of the new carpet is ₹25 per m^2 . Calculate the total amount paid by Ramya for fixing the new carpet in her room, given the room dimensions (length = x , breadth = $y+2$).			
Q.18	Ramya knows that the width of the floor is 3 m less than its length. Give the algebraic expression to calculate the area of the floor.			
Q.19	Find the value of x , if $16x = 24^2 - 16^2$			
Q.20	Using suitable algebraic identity, solve 109^2			

ANSWERS

1.	B	2.	C	3.	B	4.	A
5.	C	6.	A	7.	A	8.	C
9.	D	10.	C	11.	C	12.	A
13.	C	14.	A	15.	C	16.	₹10xy
17.	₹(25yx + 50x + 50z)	18.	$(x^2 - 3x)m^2$	19.	20	20.	11881