INDIAN SCHOOL AL WADI AL KABIR

Class VIII, Mathematics ***Worksheet 2-with answers***

ALGEBRAIC EXPRESSIONS & IDENTITIES

07-2-2021

OBJECTIVE TYPE (1 Mark)

Q.1.	The product of $5a \times (2a + b)$ is:							
	A	$10a + 5ab$	**B**	$5a + 2ab$	**C**	$10a^2 + 5ab$	**D**	$10a^2 + b$
Q.2.	The coefficient of the term $-4xyz$ is:							
	A	$-z$	**B**	$-4x$	**C**	4	**D**	-4
Q.3.	The volume of a cuboid whose length is 5xy, breadth is 6y and height is 2xz is:							
	A	$60x^2y^2z$	**B**	$60xyz$	*C*	$60x^2yz$	**D**	$30x^2y^2z$
Q.4.	The product of $(ab + bc + ca)$and 0							
	A	1	**B**	$(ab + bc + ca)$	**C**	0	**D**	$(ab + bc)$
Q.5.	The value of the expression $2a^2b + 5a - 7$ when a=0							
	A	0	**B**	7	**C**	$5a - 7$	**D**	-7
Q.6.	An equality, true for every value of the variable in it, is called --------							
	A	Identity	**B**	expression	**C**	terms	**D**	constants
Q.7.	The algebraic equation 4xy + 5 is a --------							
	A	Binomial	**B**	Monomial	**C**	Trinomial	**D**	Identity
Q.8.	The value of $57^2 - 43^2$							
	A	1600	**B**	1400	**C**	600	**D**	100
Q.9.	$9p^2 - 30pq + 25q^2$ is equal to:							
	A	$9p^2 - 25q^2$	**B**	$3p^2 + 5q^2$	**C**	$(3p - 5q)^2$	**D**	$(9p - 25q)^2$
Q.10	$(x + 5)(x + 3)$ is equal to:							
	A	$x^2 + 8x + 15$	**B**	$x^2 + 15$	**C**	$x^2 + 8x$	**D**	$x^2 + 15x + 15$

Fill in the blanks(1mark)	
Q11.	The expression which is having only one term is called -------
Q12.	$55^2 - 45^2 = 100a$, then the value of a is-------
Q13.	The like terms have same ---------- factors.
Q14.	Area of a rectangle whose length is $4ab$ cm and breadth is $3bc^2$ cm is --------
Q15.	The coefficient of the term $-pq^2r\ is$ --------
SECTION B (2 marks)	
Q16.	Evaluate by using the identity: 97^2
Q17.	Multiply$(6xy^2 - 3y + 2)$ by$(-2x^2y)$
Q18.	Add: $8ab + 3ac - 5bc$ and $9bc - 3ac - 2ab$
Q19.	Simplify and evaluate: $2p(3p - 2) - 2(q - 2p)$+5 $for\ p\ = 2\ and\ q = 1$
Q20.	Subtract $7k^4 + 6l^3 - 2klm\ from\ 11k^4 + 18l^3 - 9klm + 2$.
SECTION C (3 marks)	
Q21.	Show that$(5a + 2)^2 + (5a - 2)^2 = 2(25a^2 + 4)$
Q22.	Find the product using identities: a) $(3x + 4)(3x + 1)$ b) 103 ×97
Q23.	Show that $(3a - 5)^2 + 60a = (3a + 5)^2$

CASE STUDY -SECTION (4marks)								
Q24.	Read the given situation and answer the following: Javed is designing a rectangular swimming pool of length $7a^2b$ metre, breadth $3ab^2$ metre and height $2ab$ metre. The pool has a square tile of side $2ab$ metre in the centre of the base.							
a)	What is the area of the square tile?							
	A	$21a^2b$	**B**	$42abc$	**C**	$4ab$	**D**	$4a^2b^2$
b)	If Javed wants to fill water in the pool what is the volume of the swimming pool?							
	A	$42a^2b^2$	**B**	$42a^4b^4$	**C**	$21a^2b^2$	**D**	$6a^4b^4$
c)	What is the base area of the swimming pool?							
	A	$7a^2b^2$	**B**	$42a^2b^2$	**C**	$21a^3b^3$	**D**	$3a^2b^2$
d)	If the cost of tiling is ₹ 10 per meter square, what will be the cost of tiling the base of the swimming pool?							
	A	₹$210a^3b^3$	**B**	₹$40a^2b^2$	**C**	₹$21a^2b^2$	**D**	₹$70a^2b^2$
e)	If he wants to make a fence around the pool using metal wire, how much length of metal wire required?							
	A	$2(4a^2b^2 + 3ab^2)$	**B**	$2(7a^2b + 3ab^2)$	**C**	$7a^2b \times 3ab^2$	**D**	$21ab^2$

Answers

Answers	**1**	$10a^2 + 5ab$	**2**	-4	**3.**	$60x^2y^2z$	**4**	0
	5	-7	**6**	Identity	**7**	Binomial	**8**	1400
	9	$(3p - 5q)^2$	**10**	$x^2 + 8x + 15$	**11**	monomial	**12**	10
	13	Algebraic	**14**	$12ab^2c^2$	**15**	-1	**16**	9409
	17	$(-12x^3y^3 + 6x^2y^2 - 4xy$	**18**	$6ab + 4bc$	**19**	27	**20**	$4k^4 + 12l^3 - 7klm + 2.$
	21	LHS=RHS	**22**	a)$9x^2 + 15x + 4$ b)9991	**23**	LHS=RHS	**24a)**	$4a^2b^2$
	24 b	$42a^4b^4$	**24c**	$21a^3b^3$	**24 d**	₹$210a^3b^3$	**24e**	$2(7a^2b + 3ab^2)$

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