INDIAN SCHOOL AL WADI AL KABIR
Class VIII, Mathematics
WORKSHEET- ALGEBRAIC EXPRESSIONS AND IDENTITIES (MCQ)

Department of Mathematics

Multiple Choice questions

Q.1.	p subtracted from $9q$							
	A	$9q + p$	B	$p - 9q$	C	$9 - pq$	D	$9q - p$

Q.2.	Which is the like term as $24a^2bc$?							
	A	$13 \times 8a \times 2b \times c \times a$	B	$8 \times 3 \times a \times b \times c$	C	$3 \times 8 \times a \times b \times c \times c$	D	$3 \times 8 \times a \times b \times b \times c$

Q.3.	The product of $(px + qy)(ax - by)$ is							
	A	$apx^2 - pbxy + qyax - qy^2b$	B	$apx^2 + pbxy + qyax - qy^2b$	C	$apx^2 - pbxy - qyax - qy^2b$	D	$apx^2 + pbxy + qyax + qy^2b$

Q.4.	If the length and breadth of the rectangle are $(x + 9y)$ and $(x + 3y)$, then its area is							
	A	$x^2 - 12xy + 27y^2$	B	$x^2 + 2xy + 27y^2$	C	$x^2 + 12xy + 27y^2$	D	$x^2 + 12xy + 29y^2$

Q.5.	The coefficient of y in the term $2 - \frac{1}{10}y$ is							
	A	y	B	$-\frac{1}{10}$	C	$\frac{1}{10}$	D	2

Q.6.	In a polynomial, the exponents of the variables are always							
	A	integers	B	positive integers	C	decimals	D	non-positive integers

Q.7.	Which of the following is a binomial?							
	A	$7 \times a + a$	B	$6a^2 + 7b + 2c$	C	$4a \times 3b \times 2c$	D	$6(a^2 + b)$

Q8.	Find using suitable identity : 497×505							
	A	250686	B	250485	C	250985	D	150686

Q.9.	Volume of a rectangular box (cuboid) with length $= 2pa^2$, breadth $= 3p^2q$ and height $= 9paq$ is							
	A	$54p^4a^3q^2$	B	$6p^4a^3q^2$	C	$54p^3a^2q^2$	D	$54p^4a^3$

Q.10.	Square of $9x - 7xy$ is							
	A	$81x^2 + 49x^2y^2$	B	$81x^2 - 49x^2y^2$	C	$81x^2 + 49x^2y^2 - 126x^2y$	D	$81x^2 + 49x^2y^2 - 63x^2y$

FILL IN THE BLANKS

Q.11.	Evaluate using suitable identities. $(48)^2$ is _____.
Q.12.	The expansion of $\left(\frac{4x}{5} + \frac{y}{4}\right)\left(\frac{4x}{5} + \frac{3y}{4}\right)$ using suitable identity is_____.
Q.13.	The product of $-pqr$ and $p^2 + q^2 + r^2$ is _____.
Q.14.	The value of $181^2 - 19^2$ by using the suitable identity is _____.
Q.15.	The sum of $4x - 8y + 12mn$ and $-18mn - 9x - 12y$ is _____.

CASE STUDY QUESTION

Sarita donated some amount to a blind school. The amount of donation is represented as $₹\left(x^2 + \frac{1}{x^2}\right)$. Her friends wanted to know the amount donated by her. But she did not disclose the amount but just gave a hint that the value of the expression is $\left(x + \frac{1}{x}\right)$ is ₹ 75.
Based on the information, answer the question.

Q.16.	The Mathematical concept used in this expression is							
	A	Linear equation	B	Algebraic identities	C	Quadratic equation	D	Polynomial

Q.17.	The algebraic identity used to calculate the amount donated by Sarita is							
	A	$(a + b)^2$	B	$(a + b)^3$	C	$(a^2 - b^2)$	D	$a^3 + b^3$

Q.18.	The value of $\left(x + \frac{1}{x}\right)^2$ is							
	A	₹ 5600	B	₹ 5625	C	₹ 5623	D	₹ 5723

Q.19.	The amount donated by Sarita is							
	A	₹ 5120	B	₹ 56230	C	₹ 5623	D	₹ 5625
Q.20.	If $\left(x + \frac{1}{x}\right)$ is 8 then the value of $\left(x^2 + \frac{1}{x^2}\right)$ is							
	A	64	B	66	C	68	D	62

ANSWERS

Q1.	D	Q2.	A	Q3.	A	Q4.	C
Q5.	B	Q6.	B	Q7.	D	Q8.	C
Q9.	A	Q10.	C	Q11.	2304	Q12.	$\frac{16}{25}x^2 + \frac{4}{5}xy$ $+ \frac{3}{16}y^2$
Q13.	$-p^3qr - pq^3r - pqr^3$	Q14.	32400	Q15.	$-5x - 20y - 6mn$	Q16.	B
Q17.	A	Q18.	B	Q19.	C	Q20.	D