



INDIAN SCHOOL AL WADI AL KABIR
Class VIII, Mathematics
WORKSHEET (2026-27)
We Distribute, Yet Things Multiply

Multiple Choice Questions

Q.1	$(x + 15)(x + 3) =$							
	A	$x^2 + 18x + 45$	B	$x^2 + 45x + 18$	C	$x^2 + 45$	D	$2x + 18$
Q.2	Which identity represents the square of the difference of two numbers?							
	A	$(a - b)^2 = a^2 - b^2$	B	$(a + b)^2 = a^2 + 2ab + b^2$	C	$(a - b)^2 = a^2 - 2ab + b^2$	D	$(a - b)^2 = a^2 - ab + b^2$
Q.3	A shopkeeper sells $(x + 4)$ pens at ₹15 each and $(2x - 3)$ pencils at ₹5 each. The total money he earns is:							
	A	$15(4x + 4) + 5(2x - 3)$	B	$5(x + 4) + 15(2x - 3)$	C	$(x + 4)(2x - 3)$	D	$15(x + 4) + 5(2x - 3)$
Q.4	$-3p(-5p + 2q) =$							
	A	$15p^2 - 6pq$	B	$-15p^2 + 6pq$	C	$15p - 6q$	D	$15p^2 + 6pq$
Q.5	Which identity represents the square of the sum of two numbers?							
	A	$(x - y)^2 = x^2 - 2xy + y^2$	B	$(x + y)^2 = x^2 + 2xy + y^2$	C	$(x + y)^2 = x^2 - 2xy + y^2$	D	$(x - y)^2 = x^2 + 2xy + y^2$
Q.6	What is the coefficient of xy in the expansion of $(2x - 3y)^2$?							
	A	6	B	12	C	-3	D	-12
Q.7	98×102							
	A	$(90 - 8)(90 + 8)$	B	$(100 - 2)(100 + 2)$	C	$(100 + 2)^2$	D	$(100 - 2)^2$
Q.8	Area of the given rectangular garden is:  $x - y$ $x + y$							
	A	$x^2 + y^2$	B	$x^2 - y^2$	C	$x^2 + 2xy + y^2$	D	$x^2 - 2xy + y^2$
Q.9	A classroom has $(x - 3)$ rows of tables and each row contain $(x + 2)$ tables. Total number of tables are:							
	A	$(x + 3) + (x + 2)$	B	$(x - 3)(x - 2)$	C	$(x - 3)(x + 2)$	D	$(x + 3)(x - 2)$
Q.10	$(3 + y)^2 =$							
	A	$9 + 9y - y^2$	B	$3y^2 + y + 9$	C	$6 + 9y + y^2$	D	$9 + 6y + y^2$

	LONG ANSWER QUESTIONS:
Q.11	Using the distributive property, evaluate 728×101 .
Q.12	Expand the expression $(3a - 4b)(3a + 4b)$.
Q.13	Expand $(6x - 5)^2$.
Q.14	Expand and simplify the expression: $2(x - 1) + 3(x + 4) - 5x$.
Q.15	Find the value of $(104)^2$ using the identity for the square of a sum.
Q.16	A bakery sells $(x + 3)$ boxes of cupcakes for a school bake sale. Each box contains $(2x + 4)$ cupcakes. Write an algebraic expression for the total number of cupcakes sold and expand the expression using the appropriate identity.
Q.17	Solve $(99)^2$ using algebraic identity.
Q.18	The sum of two numbers is $(a + b)$ and the difference is $(a - b)$. What is the difference between the square of the sum and the square of the difference in terms of a and b ?
Q.19	Use suitable identity to find each of the following products. Simplify your answer. (i) $(y - 3)(y + 8)$ (ii) $(4x - 5y)(4x + 5y)$
Q.20	Case study: A stationery shopkeeper sells two types of notebooks: Premium and Regular. On a given day, he sold 105 Premium notebooks for ₹ 105 each and 95 Regular notebooks for ₹ 95 each. To quickly calculate his daily earnings the shopkeeper uses algebraic identities instead of traditional long multiplication methods.  (i) Write the product 105×95 in the form of the identity $(a + b)(a - b)$. (ii) Calculate the numerical value of 105×95 using the identity. (iii) The shopkeeper also has a square display board of side 52 cm. Calculate the area of this board using the identity $(a + b)^2$.

ANSWERS

Q.1 A	Q.2 C	Q.3 D	Q.4 A	Q.5 B	Q.6 D	Q.7 B	Q.8 B	Q.9 C	Q.10 D
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Q.11 $728 \times (100 + 1)$ $= 728 \times 100$ $+ 728 \times 1$ $= 73528$	Q.12 $9a^2 - 16b^2$	Q.13 $36x^2 - 60x + 25$	Q.14 $2x - 2 + 3x +$ $12 - 5x = 10$	Q.15 $(100 + 4)^2$ $= 100^2 + 800$ $+ 16 = 10,816$
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Q.16 $(x + 3)(2x + 4) =$ $2x^2 + 10x + 12$	Q.17 $(100 - 1)^2$ $= 100^2$ $- 200 + 1$ $= 9,801$	Q.18 $(a + b)^2 -$ $(a - b)^2 = 4ab$	Q.19 (i) $y^2 + 5y - 24$ (ii) $16x^2 - 25y^2$	Q.20 (i) $(100 + 5)(100 - 5)$ (ii) $100^2 - 5^2 =$ $10,000 - 25 = 9,975$ (iii) $(50 + 2)^2 = 2,500 +$ $200 + 4 = 2,704 \text{ cm}^2$
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