



INDIAN SCHOOL AL WADI AL KABIR
Class VIII, Mathematics
WORKSHEET (2025-26)
FACTORISATION-1

Multiple Choice Questions

Q.1.	The area of a rectangle is $x^2 - 7x + 12$, its dimensions can be:							
	A	$(x - 4)(x - 3)$	B	$(x - 6)(x - 2)$	C	$(x + 4)(x + 3)$	D	$(x - 5)(x - 2)$
Q.2.	The common factor of $12a^3b^5, 18a^4b^3, 30a^2b^6$ is:							
	A	$6a^2b^3$	B	$3a^2b^3$	C	$6a^3b^4$	D	$12a^2b^2$
Q.3.	Factorize $15x^2y + 20x^3y$ by the method of common factor.							
	A	$3x^2y(5 + 4x)$	B	$5xy(3x + 4x^2)$	C	$5x^2y(3 + 4x)$	D	$15xy(x + 4x^2)$
Q.4.	The factors of $pqx + pqy - prx - pry$ are:							
	A	$p(x + y)(q - r)$	B	$q(x + y)(p - r)$	C	$r(x + y)(p - q)$	D	$p(q + r)(x - y)$
Q.5.	Which of the following expressions has $(x - 3)$ as a factor?							
	A	$x^2 - 6$	B	$x^2 - 9$	C	$x^2 - 3$	D	$x + 3$
Q.6.	$(72x^3 - 8x) \div (3x - 1)$ equals:							
	A	$4x(2x + 1)$	B	$16x + 2$	C	$8x(3x + 1)$	D	$4x(x^2 + 1)$
Q.7.	The area of a square is $9x^2 - 24x + 16$. Its side length is:							
	A	$3x - 8$	B	$3x + 4$	C	$9x - 4$	D	$3x - 4$
Q.8.	$3x^2 - 18x - 12y + 2xy$ can be factorized as:							
	A	$3x(x - 6) + 2y$	B	$\frac{(x - 6)}{(3x + 2y)}$	C	$\frac{(x + 6)}{(3x - 2y)}$	D	$3xy(x - 6) + 2y$
Q.9	The product of two expressions is $9y^2 - 144$. If one factor is $(y + 4)$, then the other factor is_____.							
	A	$9(y - 4)$	B	$y - 12$	C	$3(3y - 12)$	D	$9y - 36$

Q.10.	Using suitable identity, factorize $81x^4 - 16$:			
	A	$(81x^2 - 4)^2$	B	$(3x - 2)(3x + 2)(9x^2 + 4)$
			C	$(9x - 4)(9x + 4)$
			D	$(9x^2 - 4)(9x^2 + 4)$
LONG ANSWER QUESTIONS:				
Q.11	Write down the common factors of $14x^3y^3, 21x^5y^2, 35x^6y^6$.			
Q.12	Factorize using suitable method: $4xy - y^2 + 8xz - 2yz$			
Q.13	Factorize the given expression using identities: $4a^2 - 20ab + 25b^2$			
Q.14	Evaluate by using identity: $105^2 - 95^2$			
Q.15	Factorize the following expression: $m^2 - 26m + 120$			
Q.16	Divide: $(28a^2 - 63)$ by $7(2a + 3)$			
Q.17	Factorize $(2x + 3y)^2 - 16z^2$			
Q.18	Factorize the following expression: $(a - 2b)^2 - 5(a - 2b) + 6$			
Q.19	Factorise the following expression and divide as directed: $51x^3(98x^2 - 32) \div 34x^2(7x + 4)$			
Q.20.	<p><u>CASE STUDY:</u></p> <p>The students of Class VIII were asked to design a garden plot for their school. The teacher provided each group with a rectangular area and asked them to plan the garden efficiently. One group designed a rectangular plot with area $3y^2 + 12y - 63$ sq. meters and width $y + 7$ meters.</p> <p>(i) Find the length of the garden plot.</p> <p>(ii) What will be the area of the garden if $y = 4$?</p> <p>(iii) Write an algebraic expression for the perimeter of the garden plot.</p> <p>(iv) Simplify: $\frac{0.75 \times 0.75 - 0.25 \times 0.25}{0.75 - 0.25}$</p>			

ANSWERS

1.	A	2.	A	3.	C	4.	A
5.	B	6.	C	7.	D	8.	B
9.	A	10.	D	11.	$7x^3y^2$	12.	$(4x - y)(y + 2z)$
13.	$(2a - 5b)^2$	14.	2000	15.	$\frac{(m - 6)}{(m - 20)}$	16.	$(2a - 3)$
17.	$(2x + 3y + 4z)$ $(2x + 3y - 4z)$	18.	$(a - 2b - 2)$ $(a - 2b - 3)$	19.	$3x(7x - 4)$	20.	(i) $3(y - 3)$ (ii) 33 sq. meters (iii) $4(2y - 1)$ (iv) 1