

**INDIAN SCHOOL AL WADI AL KABIR**  
**Class VIII, Mathematics**  
**WORKSHEET (MCQ& CASE STUDY) –Factorisation**

**Multiple Choice questions**


Q.1.	Factorise $21x^2y^2 + 27x^3y^2$ by the method of common factor.							
	A	$3x^2y^2(x + 7)$	B	$3x^2y(7 + 9x)$	C	$3x^2y^2(7 + 9x)$	D	$7x^2y^2(3x + 9)$
Q.2.	Factorise $x^2 - 16x + 64$							
	A	$(x - 2)^2$	B	$(x - 8)^2$	C	$(x - 4)^2$	D	$(x - 2)^2$
Q.3.	Which of the following are the factors of $-20x^2 + 10x^4$							
	A	$(x^2 - 1)$	B	$(x - 1)$	C	$(x+1)$	D	$(x^2 - 2)$
Q.4.	The factorisation of $ax + ay + bx + by$ is							
	A	$(x+y)(a+b)$	B	$ax + by$	C	$a(x+y)$	D	$b(x+y)$
Q.5.	The expression which does not have $(m-2)$ as a factor is							
	A	$m^2 - 4$	B	$m^2 - 2$	C	$(m - 2)^2$	D	$m-2$
Q.6.	$(x^2 + 6x + 5) \div (x+5)$ gives							
	A	$x+5$	B	$x+1$	C	$x+6$	D	$x-5$
Q.7.	The factorisation of $12a^2b+15ab^2$ gives							
	A	$3a(4a+5b)$	B	$3ab(4a+5b)$	C	$12ab(a+b)$	D	$4ab(3a + 5b)$
Q8.	Divide as directed: $3xyz(x^2+2xy+y^2) \div (x + y)^2$							
	A	$(x+y)$	B	$x^2+2xy$	C	$(x + y)^2$	D	$3xyz$
Q9	Using suitable identity, factorise $x^2+x - 72$							
	A	$(x-9)(x-8)$	B	$x(x-9)$	C	$(x+9)(x-8)$	D	$(x+9)(x+8)$

Q10	The product of two expressions is $4x^2 - 100$ . If one of the factors is $(x+5)$ , find the other factor.						
A	$4(x-5)$	B	$x-10$	C	$x+5$	D	$x+10$

### SOURCE BASED QUESTION

Sona and Vipin are siblings. They planned to make surprise birthday cards on their mother's birthday. Sona used a thick rectangular sheet of paper to make the card. Area of the sheet is  $x^2 + 10x + 21$ . Vipin cut another sheet of paper of area  $x^2 + 6x + 9$ . Answer the following questions based on given information.

Q11	Find the length and breadth of Sona's sheet of paper in terms of x.
Q12	Find the length and breadth of Vipin's sheet of paper in terms of x.
Q13	What is the shape of Vipin's sheet of paper?
Q14	If the value of x is 2 cm, find the area of Sona's sheet of paper.
Q15	If the length and breadth of Vipin's sheet of paper is increased by 2 units, find the area of Vipin's sheet of paper in terms of x.

<p><b>Q16</b></p> <p><b>CASE STUDY:</b> In a school auditorium, the seats are arranged in rows and columns. The number of seats in the auditorium is expressed as <math>x^2 + 23x + 132</math>. Based on this information, answer the questions that follow:</p> <p>i) Find the number of rows in terms of x if the number of columns is <math>x+12</math>.</p> <p>ii) Find the number of rows and columns if <math>x=10</math>?</p>	
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### ANSWERS

1.	C	2.	B	3.	D	4.	A
5.	B	6.	B	7.	B	8.	D
9.	C	10.	A	11.	$L=x+7, B=x+3$ OR $L=x+3, B=x+7$	12.	$L=B=(x+3)$
13.	Square	14.	70 sq.cm	15.	$x^2 + 14x + 45$	16.	i) $x+11$ ii) 21 rows and 22 columns