



STANDARD 8TH: CHAPTER 6

Factorisation of Algebraic Expressions

Q1. Choose the correct alternative:

- Which of the following algebraic expression is not perfect square?
 - $a^2 + \frac{2}{3}a + \frac{1}{9}$
 - $36m^2n^2 + 36mn + 9$
 - $25k^2 - 20k + 4$
 - $9a^2 - 24ab + 25b^2$
- Factorise $4x^3 - 12x^2 + 8x$
 - $(x^2 - 3x + 2)$
 - $(x - 1)(x - 2)$
 - $4x(x - 1)(x - 2)$
 - $4x$
- Let $w, x, y,$ and z be whole numbers. If $2^w \cdot 3^x \cdot 5^y \cdot 7^z = 588$, then what does $2w + 3x + 5y + 7z$ equal?
 - 21
 - 22
 - 20
 - 23
- Which of the following is correct steps in Factorisation $3x^2 - 12$
 - $3(x^2 + 4)$
 - $3(x - 4)^2$
 - $9(x - 4)^2$
 - $3(x^2 - 4)$
- Factorize $y^3 - 64 + x^2 - 16$
 - $(y - 4)(y^2 + 4y + 16) + (x - 4)(x + 4)$
 - $(y + 4)(y^2 + 4y + 16) + (x - 4)(x + 4)$
 - $(y - 4)(y^2 + 4y + 16) + (x + 4)(x + 4)$
 - $(y - 4)(y^2 - 4y + 16) + (x - 4)(x + 4)$

6. Factorize: $9x^2 + 4m^2 + 12mx$
- $(3x - 2m)^2$
 - $(3x + 2m)^2$
 - $(3m - 2x)^2$
 - $(3m + 2x)^2$
7. Factorise $(x^4 - 1)$
- $(x^2 - 1)(x^2 + 1)$
 - $(x^2 + \frac{1}{2})(x^2 + \frac{1}{2})$
 - $(x^2 - 1)(x^2 - 1)$
 - $(x^2 - \frac{1}{2})(x^2 + \frac{1}{2})$
8. Factorize: $x^2 + 2xy + 5x^3 + 10x^2y$
- $x(1 - 5x)(x - 2y)$
 - $x(1 - 5x)(x + 2y)$
 - $x(1 + 5x)(x - 2y)$
 - $x(1 + 5x)(x + 2y)$
9. Factorize: $6x^2 - x - 12$
- $(2x - 3)(3x + 4)$
 - $(2x - 3)(3x - 4)$
 - $(2x + 3)(3x - 4)$
 - $(2x + 3)(3x + 4)$
10. Solve using factorization: $\frac{x^2-16}{x+3} \times \frac{x^2+5x+6}{x+4}$
- $(x + 4)(x - 2)$
 - $(x - 3)(x - 2)$
 - $(x + 3)(x - 4)$
 - $(x - 4)(x + 2)$

Q.2 Solve the following:

- Factorise $16x^2 + 4y^2 + 9z^2 - 16xy + 12yz - 24zx$ using standard algebraic identities.
- Factorize $(x^3 + 8y^3 + 27z^3 - 18xyz)$ using standard algebraic identities.

3. Simplify: $\frac{6x^2+9x}{x^2+8x+15} \div \frac{4x+6}{x^2-9}$

4. One of the factors of $18x^2 - 39x + 20$ is $(3x - 4)$ then what is another factor?

5. Factorize $x(x - 2)(x - 4) + (4x - 8)$

6. Factorize: $49y^2 - 1$.

7. Simplify: $12(y^2 + 7y + 10) \div 6(y + 5)$

8. Regroup the terms and factorise: $z - 19 + 19xy - xyz$

9. Factorize: $21x^2 - 2x + \frac{1}{21}$

10. If area of rectangle is $35y^2 + 13y - 12$ find the possible lengths and breadth.