



A Level Maths

Topic: Factorising Expressions

Instructions

Answer all questions. Show complete working. Use appropriate factorising techniques where applicable.

Practice Questions

1. Factorise the following expressions:

(i) $x^2 + 7x + 12$

(ii) $3x^2 - 5x + 2$

(iii) $4x^2 - 12x + 9$

(iv) $2x^2 + 5x + 3$

2. Factorise completely:

(i) $x^2 - 9$

(ii) $2x^2 + 5x - 3$

(iii) $9x^2 - 16$

(iv) $x^2 + 6x + 9$

3. Factorise by grouping:

(i) $x^2 + 5x + 6x + 30$

(ii) $2x^2 + 4x + 3x + 6$

(iii) $3x^2 - 12x + 2x - 8$

(iv) $4x^2 + 8x - 5x - 10$

4. Factorise the following quadratic expressions:

(i) $2x^2 + 7x + 3$

(ii) $3x^2 - 11x + 6$

(iii) $x^2 - 5x + 6$

5. Factorise the expression $x^2 + 10x + 25$ and verify by expanding the factors.
6. Factorise $4x^2 - 12x$.
7. Factorise $x^2 + 6x - 27$.
8. Factorise the expression $6x^2 - 19x + 15$.

Multiple-Choice Questions

1. Which of the following is the factorised form of $x^2 + 8x + 15$?
 - A. $(x + 3)(x + 5)$
 - B. $(x + 1)(x + 15)$
 - C. $(x + 2)(x + 10)$
 - D. $(x + 5)(x + 3)$
2. Which of the following is the factorised form of $4x^2 - 9$?
 - A. $(2x - 3)(2x + 3)$
 - B. $(x - 3)(x + 3)$
 - C. $(2x + 3)(2x - 3)$
 - D. $(4x - 9)$
3. Factorise the expression $x^2 - 10x + 25$:
 - A. $(x - 5)(x - 5)$
 - B. $(x + 5)(x + 5)$
 - C. $(x - 10)(x + 25)$
 - D. $(x - 1)(x - 25)$
4. The factorised form of $2x^2 - 5x - 3$ is:
 - A. $(2x + 3)(x - 1)$
 - B. $(2x - 3)(x + 1)$
 - C. $(x - 1)(2x + 3)$
 - D. $(x + 1)(2x - 3)$