



Grade 7

Topic: Factoring Expressions

Instructions

Factor the following expressions completely. Show all steps clearly.

Practice Problems

1. Factor out the greatest common factor (GCF).

(i) $6x + 9$

(iv) $18xy - 24x$

(ii) $12a^2 - 8a$

(v) $21p^2q + 14pq^2$

(iii) $15m^3 + 10m^2$

(vi) $9x^2y - 3xy^2$

2. Factor by grouping.

(i) $x^3 + x^2 + x + 1$

(iii) $m^3 - m^2 + 5m - 5$

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

(iv) $6xy + 9x + 4y + 6$

3. Factor trinomials.

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

(iii) $m^2 + 3m - 10$

(ii) $a^2 - 7a + 12$

(iv) $p^2 - 9p + 20$

4. Factor special products.

(i) $x^2 - 16$

(iii) $(m + n)^2 - 4$

(ii) $a^2 - 25b^2$

(iv) $9x^2 - y^2$

Multiple-Choice Questions

1. What is the factored form of $x^2 + 7x + 10$?
 - A. $(x + 5)(x + 2)$
 - B. $(x - 5)(x + 2)$
 - C. $(x + 10)(x - 1)$
 - D. $(x + 7)(x + 1)$
2. Factor: $4x^2 - 9$
 - A. $(2x - 3)(2x + 3)$
 - B. $(2x + 3)^2$
 - C. $(4x - 3)(x + 3)$
 - D. $(2x - 9)(2x + 1)$
3. Which expression shows $a^2 + 6a + 9$ factored?
 - A. $(a + 9)(a + 1)$
 - B. $(a + 3)^2$
 - C. $(a + 2)(a + 4)$
 - D. $(a + 6)(a + 1)$
4. What is the GCF of $18x^2$ and $24x$?
 - A. $6x$
 - B. $12x$
 - C. $18x$
 - D. $24x$

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