

# Factor Distributive Property

## Algorithm

1. Find GCF of polynomial
2. Divide each term of the polynomial by GCF
3. Rewrite the polynomial as a product of the GCF and the quotient

**Example:** Factor completely:  $4x^3 + 8x^2 - 12x$

1. GCF is  $4x$
2.  $\frac{4x^3}{4x} + \frac{8x^2}{4x} - \frac{12x}{4x} = x^2 + 2x - 3$
3.  $4x(x^2 + 2x - 3)$

**Factor each polynomial.**

1.  $6a + 9$

2.  $18x - 12$

3.  $16y + 12z$

4.  $10x - 15w + 5$

5.  $15x^2 + 5x - 10$

6.  $6n + 8m$

7.  $3x^2 + 5x$

8.  $8x^2 + 6x$

9.  $8n^2 + 16n$

10.  $6a^2 - 9a$

11.  $15y^2 + 5y$

12.  $8a^2b - 20a$

13.  $5c^2d + 10cd^2$

14.  $7x^2y - 21xy^2$

15.  $8x^3 + 4x^2 + 6x$

$$16. 5n^2 + 10n + 5$$

$$17. 3x^3y + 6x^2y - 9xy$$

$$18. 2a^3b - a^2b + a$$

$$19. 6x^2 + 8xy - 10y^2$$

$$20. 6x^3y + 3x^2y - 9xy$$

$$21. 3x^3 + 6x^2$$

$$22. 15x^2y - 5xy^2$$

$$23. 6x^4 + 4x^2 - 8x$$

$$24. a^3x^3 + a^2x^3 - ax$$

$$25. c^2d^2 - c^3d^3 - c^4d^4$$