



Expanding and Simplifying Algebraic Expressions

Video Notes

[Video Link](#)

Expanding and Simplifying Algebraic Expressions

Background Knowledge:

- Adding Polynomials
- Multiplying a Monomial by a Polynomial
- Subtracting Polynomials

Expand and simplify:

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

$$\underline{5x^2} - \underline{20x} - \underline{2x} - \underline{20x^2}$$

$$\boxed{-15x^2 - 22x}$$

- Distribute, first
- collect/combine like terms

Expand and simplify:

$$4 - (5x + 11) + 8(6 - x) + 3x(x + 2) - 7x + (2x^2 - x - 9)$$

$$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$$

$$\underline{4} - \underline{5x} - \underline{11} + \underline{48} - \underline{8x} + \underline{3x^2} + \underline{6x} - \underline{7x} + \underline{2x^2} - \underline{x} - \underline{9}$$

$$\boxed{5x^2 - 15x + 32}$$

- Distribute first
- Collect/combine like terms
(To make it easier: collect/combine in descending order)