

# Factoring Perfect Square Trinomials

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# What is a Perfect Square Trinomial?

Perfect square trinomials are algebraic expressions with three terms that are created by multiplying a binomial to itself.

# How to Determine if a Polynomial is a Perfect Square Trinomial?

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2. Is the last term a perfect square?
3. Is the middle term, disregarding the sign, twice the product of the square roots of the first and last terms?

# How to Factor Perfect Square Trinomials?

Use the formulas:

$$a^2 + 2ab + b^2 = (a + b)(a + b) = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)(a - b) = (a - b)^2$$

or

$$1\text{st}^2 + 2(1\text{st})(2\text{nd}) + 2\text{nd}^2 = (1\text{st} + 2\text{nd})^2$$

$$1\text{st}^2 - 2(1\text{st})(2\text{nd}) + 2\text{nd}^2 = (1\text{st} - 2\text{nd})^2$$

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2. Check whether the polynomial is a perfect square trinomial.
3. Apply the formula.

**Thank you for watching.**