

Outline

First: Factor Out Common Factors

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Factoring polynomials with two to four terms

Two Terms

Three Terms

Four Terms

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Check by Multiplying

Finding Common Factors

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Factoring out $5x^2$ would then give us

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

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The first factoring leaves us with $x^2 - 2x + 1$ unfactored which is simpler to work with.

Assuming the polynomial has no common factors left, we then check its number of terms.

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- ▶ Sum of cubes:

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

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Always double check your work by multiplying the factored terms together.