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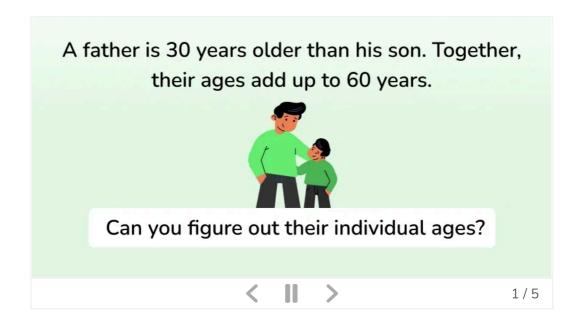
Algebra in Math - Definition, Branches, Basics and **Examples**

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Algebra is the branch of mathematics with the following properties.

- Deals with symbols (or variables) and rules for manipulating these symbols.
- Elementary (Taught in Schools) Algebra mainly deals with variables and operations like sum, power, subtraction, etc. For example, x + 10 $= 100, x^2 - 2x + 1 = 5$ and x + y = 20.
- Abstract Algebra (Taught in Colleges) deals with groups, rings, and fields instead of normal variables (representing numbers).

In this article, we are mainly going to focus on Elementary algebra.



Example: A father is 30 years older than his son. The combined age of both father and son is 60 years. You are asked to find the

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Got It!

- The father's age will then be x + 30, since the father is 30 years older than the son.
- The sum of their ages is 60, so the equation becomes: x + (x + 30) = 60

Algebraic Equation: 2x + 30 = 60.

Algebra for Beginners & School Students

This section covers key algebra concepts, including expressions, equations, operations, and methods for solving linear and quadratic equations, along with polynomials and factorization.

- Basics of Algebra
- Branches of Algebra
- Algebraic Expressions
- Algebraic Equations
- One-step Equations
- Expression and Equations
- Algebraic Operations & Properties
- Linear equation in one Variable
- <u>Linear Equation in Two Variables</u>
- Pair of Linear Equation in Two Variables
- Solving Pair of Linear Equation in Two Variables
 - Substitution Method
 - Elimination Method
 - Cross Multiplication Method
- Quadratic Equations
- Quadratic Formula
- Algebraic Identities
- Polynomials
- Degree of Polynomial
- Factorization of Polynomial
- Zeroes of a Polynomial

Algebra for Aptitude Preparation

This section covers key algebra formulas and tricks to boost your aptitude skills and improve exam performance.

- Algebra Formulas
- Algebra Tricks for Aptitude
- Algebra Aptitude Questions & Answers

Algebra Practice Questions

This section offers a variety of algebra practice questions at different difficulty levels, including linear and quadratic equations, to help you sharpen your skills and prepare for exams.

- Algebra Practice Questions (Easy Level)
- Algebra Practice Questions (Medium Level)
- Algebra Practice Questions (Hard Level)
- Practice Problems on Linear Equation in Two Variables
- Practice Questions on Quadratic Equations
- Algebra Practice Quiz

Algebra for Programmers

This section focuses on algebra concepts for programmers, including coding solutions for linear and quadratic equations, finding missing values, and determining the maximum and minimum values of algebraic expressions.

- Find number of solutions of a linear equation of n variables
- Program to find number of solutions in Quadratic Equation
- Program to find the Roots of Quadratic equation
- Find the missing value from the given equation a + b = c
- Maximum and Minimum Values of an Algebraic Expression

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