Algebra
Notes and Practice

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1   Introduction

Algebra

This document contains concise notes, worked examples, and practice problems to help rebuild my algebra foundation.

2   Algebra Basics

2.1   Variables and Constants

A **variable** is a symbol (often a letter) that represents a number. A **constant** is a fixed value.

Example:
$$x + 3 = 7 \quad \Rightarrow \quad x = 4$$

2.2   Order of Operations

Remember PEMDAS:

- **P**arentheses
- **E**xponents
- **MD** Multiplication and Division (left to right)
- **AS** Addition and Subtraction (left to right)

$$2 + 3 \times (4^2 - 1) = 2 + 3 \times (16 - 1) = 2 + 3 \times 15 = 47$$

3   Linear Equations

3.1   Solving One-Step Equations

Solve:
$$x - 5 = 9 \quad \Rightarrow \quad x = 14$$