

Pre-Calculus

Chapter 0. Solving Equations and Inequalities

0.1 Solving Equations with Absolute Value

0.1.1 Solve Simple Equations Involving Absolute Value

0.2 Solving Quadratic Equations

0.2.1 Use the Square Root Property to Solve Equations of the Type $(x - a)^2 = b^2$

0.2.2 Solve Equations by Completing Squares

0.2.3 Use the Quadratic Formula for Solving Quadratic Equations

0.3 Equations with Radicals

0.3.1 Solve Equations with Radicals

0.3.2 Identify Equations with No Solutions

0.4 Equations containing Rational Expressions

0.4.1 Solve Equations containing Rational Expressions

0.4.2 Solve Equations for a Particular Unknown

0.5 Linear Inequalities in One Variable

0.5.1 Solve Linear Inequalities

0.5.2 Solve Three-Part Inequalities

0.5.3 Solve Applied Problems using Linear Inequalities

0.6 Solutions of Quadratic Inequalities

0.6.1 Solve Quadratic Inequalities and Graph the Solutions

0.6.2 Solve Rational Inequalities and Graph the Solutions

0.7 Solving Inequalities with Absolute Value

0.7.1 Solve Simple Inequalities Involving Absolute Value

Chapter 1. Review of Basic Concepts

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1.1.1 Real Number System

1.1.2 Real Number Line

1.1.3 Ordering of the Real Numbers

1.1.4 Intervals on the Number Line

1.1.5 Union and Intersection of intervals

1.2 Complex Numbers

1.2.1 Define and Identify Complex Numbers

1.2.2 Add and Subtract Complex Numbers

1.2.3 Multiply Complex Numbers

1.2.4 Find Quotients of Complex Numbers

1.3 The rectangular coordinate system

1.4 Distance And Slope

- 1.4.1 The Distance between two points
- 1.4.2 The Midpoint of a line segment
- 1.4.3 The Slope of a line

1.5 Equations of Lines

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- 2.1.2 Elementary Functions

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2.3 Domain of a Function (Revisited)

- 2.3.1 Finding the domain of a function

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- 3.2.1 The Strategy for Generating a Function in Applications

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- 3.3.5 Forming Equations

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- 3.7.1 The Behavior of $f(x) = (p(x)/q(x))$ near $x = a$ where $p(a) \neq 0$, but $q(a) = 0$
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- 4.3.1 Properties of Logarithms
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5.3 Evaluating Circular Functions

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- 6.1.1 Simplifying Trigonometric Expressions

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- 7.1.1 The Law of Sines

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7.2.1 The Law of Cosines

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8.3.3 The Gauss-Jordan Method

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8.5 Multiplication of Matrices

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8.6.1 Inverse of a Matrix

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