

## MATHEMATICS GRADE 11 NOTES

### EXAMPLES:

#### Example 1

$$(x-3)(x+5) = 9$$

$$x^2 + 5x - 3x - 15 - 9 = 0$$

$$x^2 + 2x - 24 = 0$$

$$(x+6)(x-4) = 0$$

$$x = -6 \text{ or } x = 4$$

#### Example 2

Solve for  $x$ :

$$\sqrt{x-2} + x = 4$$

$$\sqrt{x-2} = 4 - x$$

$$x-2 = (4-x)^2$$

$$x-2 = 16 - 8x + x^2$$

$$x^2 - 8x + 16 - x + 2 = 0$$

$$x^2 - 9x + 18 = 0$$

$$(x-3)(x-6) = 0$$

$$x = 3 \text{ or } x = 6$$

after checking both solutions

$x = 3$  is the only solution

#### Example 3

Solve for  $x$ :

$$15x - 4 > 9x^2$$

$$15x - 4 - 9x^2 > 0$$

$$9x^2 - 15x + 4 < 0$$

$$(3x-1)(3x-4) < 0$$



$$\frac{1}{3} < x < \frac{4}{3}$$

# Mathematics Review

**Lingjun Ying**



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### **Table of Contents Mathematics Review**

1. Understanding the eBook Mathematics Review
  - The Rise of Digital Reading Mathematics Review
  - Advantages of eBooks Over Traditional Books
2. Identifying Mathematics Review
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Mathematics Review
  - User-Friendly Interface
4. Exploring eBook Recommendations from Mathematics Review
  - Personalized Recommendations
  - Mathematics Review User Reviews and Ratings
  - Mathematics Review and Bestseller Lists

5. Accessing Mathematics Review Free and Paid eBooks
  - Mathematics Review Public Domain eBooks
  - Mathematics Review eBook Subscription Services
  - Mathematics Review Budget-Friendly Options
6. Navigating Mathematics Review eBook Formats
  - ePub, PDF, MOBI, and More
  - Mathematics Review Compatibility with Devices
  - Mathematics Review Enhanced eBook Features
7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of Mathematics Review
  - Highlighting and Note-Taking Mathematics Review
  - Interactive Elements Mathematics Review
8. Staying Engaged with Mathematics Review
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers Mathematics Review
9. Balancing eBooks and Physical Books Mathematics Review
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection Mathematics Review
10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
11. Cultivating a Reading Routine Mathematics Review
  - Setting Reading Goals Mathematics Review
  - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Mathematics Review
  - Fact-Checking eBook Content of Mathematics Review
  - Distinguishing Credible Sources
13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
  - Exploring Educational eBooks
14. Embracing eBook Trends
- Integration of Multimedia Elements
  - Interactive and Gamified eBooks

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