

## Summary Chapter 2: Solving Linear Equations

*Intermediate Algebra* from OpenStax, a free and open online textbook

### Section 1:

#### Terminology

- Linear equation in one variable
- Addition Property of Equality
- Multiplication Property of Equality

#### Be Able To

- Apply the Addition Property of Equality to solve a linear equation in one variable
- Apply the concepts
- Apply the Multiplication Property of Equality to solve a linear equation in one variable
- Apply both the Addition and Multiplication Property of Equality to solve a linear equation in one variable
- Apply the concepts

### Section 2:

#### Terminology

No additional definitions

#### Be Able To

- Construct and solve number problems
- Construct and solve geometry problems
- Solve simple interest applications

#### Be able to use the formula

- Formula for Simple Interest:

If an amount of money,  $P$ , called the principal, is invested or borrowed for a period of  $t$  years at an annual interest rate  $r$ , the amount of interest,  $I$ , earned or paid is given by

$$I = Prt$$

### Section 3:

#### Terminology

- Formula

#### Be Able To

- Solve a formula for a specific variable
- Use formulas to solve geometry applications

### Section 4:

#### Omitted

### Section 5:

#### Terminology

- Linear inequality in one variable
- Addition Property for Inequalities
- Multiplication Property for Inequalities

#### Be Able To

- Apply the Addition Property for Inequalities to solve a linear inequality in one variable
- Apply the Multiplication Property of Inequalities to solve a linear inequality in one variable
- Apply both the Addition and Multiplication Property of Equality to solve a linear inequality in one variable
- Construct and solve linear inequalities in one variable
- Apply the concepts

### Section 6:

#### Terminology

- Compound Inequality

#### Be Able To

- Apply the Addition Property for Inequalities to solve a linear compound inequality in one variable
- Apply the Multiplication Property of Inequalities to solve a linear compound inequality in one variable
- Apply both the Addition and Multiplication Property of Equality to solve a linear compound inequality in one variable

- Construct and solve linear compound inequalities in one variable
- Apply the concepts

### **Sample Applications of Chapter 2 Content**

- Use a given expression to calculate target heart rate
- Solve circumference of circle formula for a specified variable
- Solve markup formula for a specified variable
- Solve supplementary angles formula for a specified variable
- Solve complementary angles formula for a specified variable
- Solve sum of angles in a Triangle formula for a specified variable
- Solve profit formula for a specified variable
- Solve discount formula for a specified variable
- Solve Hardy-Weinberg formula for a specified variable. **Example:**  $p + q = 1$  where  $p$  is the frequency of the dominant allele in a population and  $q$  is the frequency of the recessive allele
- Solve distanced formula for a specified variable
- Solve Fahrenheit to Celsius formula for a specified variable
- Solve Celsius to Fahrenheit formula for a specified variable
- Solve Celsius to Kelvin formula for a specified variable
- Solve perimeter of triangle formula for a specified variable
- Solve perimeter of trapezoid formula for a specified variable
- Solve perimeter of square formula for a specified variable
- Solve perimeter of parallelogram formula for a specified variable
- Solve perimeter of rectangle formula for a specified variable
- Solve area of parallelogram formula for a specified variable
- Solve area of triangle formula for a specified variable
- Solve area of trapezoid formula for a specified variable
- Solve area of triangle formula for a specified variable
- Solve volume of rectangular solid formula for a specified variable
- Solve volume of right circular cone formula for a specified variable

- Solve volume of right circular cylinder formula for a specified variable
- Solve simple interest formula for a specified variable
- Solve distanced formula for a specified variable
- Solve Newton's 2<sup>nd</sup> Law of Motion formula for a specified variable
- Solve continuous compound interest formula for a specified variable