<p style="text-align:center">**Summary Chapter 1: Foundations**
Intermediate Algebra from OpenStax, a free and open online textbook</p>

Section 1:

<u>Terminology</u>
- Variable
- Algebraic Expression
- Terms
- Similar (Like) Terms

<u>Be Able To</u>
- Use the order of operations
- Evaluate algebraic expressions
- Simplify algebraic expressions
- Translate English phrases to algebraic expressions
- Apply the concepts

Section 2:

<u>Terminology</u>
- Integers
- Absolute value
- Exponent

<u>Be Able To</u>
- Add and subtract integers
- Multiply and divide integers
- Simplify expressions with absolute value, integers and/or exponents
- Translate English phrases to expressions with integers
- Apply the concepts

Section 3:

<u>Terminology</u>
- Fractions

<u>Be Able To</u>
- Simplify or reduce fractions
- Multiply and divide fractions
- Add and subtract fractions
- Use the order of operations to simplify fractions
- Evaluate variable expressions with fractions

Section 4:

<u>Terminology</u>
- Decimals
- Square roots

<u>Be Able To</u>
- Round decimals
- Convert decimals, fractions, and percents
- Add and subtract decimals
- Multiply and divide decimals
- Simplify expressions with square roots

Section 5:

<u>Terminology</u>
- Commutative, associative and distributive property
- Identity, inverse and zero property

<u>Be Able To</u>
- Use commutative, associative and distributive property
- Use identity, inverse and zero property

<u>Sample Applications of Chapter 1 Content</u>
- Use a given expression to calculate target heart rate

    Example: $220 - a$ where *a* is your age

- Use a given express to calculate Basal Metabolic Rate (BMR) for women

    Example: $4.545x + 15.875y + 5z - 161$ where *x* is weight in pounds, *y* is height in inches and *z* is age in years.

- Use a given expression to calculate Basal Metabolic Rate (BMR) for men

- Use a given formula to calculate a drug dosage

Example: $x = \dfrac{D}{A}$ where x is the number of tablets to administer to the patient, D is the prescribed dosage ordered by the physician and A is the available dosage.

- Use a given formula to calculate deductions

- Use a given formula to calculate gross pay

- Use a given formula to calculate pay from tutoring job

- Use a given formula to calculate car rental price

- Use a given formula to calculate minimum wage

- Use a given formula to find pulse pressure

    Example: $P = S - D$ where P is the pulse pressure, S is the systolic blood pressure and D is the diastolic blood pressure

- Use a given formula to calculate Body Mass Index (BMI)

    Example: $BMI = \dfrac{W}{H^2} \times 703$ where W is the weight in pounds and H is the height in inches

- Use a given formula to determine Body Mass Index (BMI) range