Chapter 10 Summary: Exponential and Logarithmic Functions
Course Textbook by McKeague, Essentials of Elementary and Intermediate Algebra: A Combine Course, XYZ Textbook

Section 1:
Know The Following Definitions
- Exponential Function
- Natural Exponential Function
- Logarithmic Function

Be Able To
- Evaluate Exponential Function
- Construct a graph of the Exponential Function
- Find domain and range of the Exponential Function
- Find x-intercept and y-intercept of the Exponential Function
- Construct graph of the Natural Exponential Function
- Find domain and range of the Natural Exponential Function
- Find x-intercept and y-intercept of the Natural Exponential Function
- Applying the concepts

Be able to use the formula

\[ A(t) = P \left(1 + \frac{r}{n}\right)^n \]

Section 5:
Know The Following Definitions
- Common Logarithmic Function
- Natural Logarithmic Function

Be Able To
- Evaluate Common Logarithmic Functions using the calculator
- Construct a graph the Common Logarithmic Function
- Evaluate Natural Logarithmic Functions using the calculator
- Construct a graph the Natural Logarithmic Function
- Applying the concepts
Be able to use the formula
- The pH of a substance is defined by the function: $pH = -\log[H]^+$ where $[H]^+$ is the hydrogen ion concentration in moles per liter.

Sample Applications of Chapter 10 Content
- Use a given formula to calculate the current value of a car

Example: $v(t) = P(1 - r)^t$ where $v(t)$ is the current value of the car, $P$ is the purchased price of the car, $r$ is the depreciation rate and $t$ is time

- Use a given formula to calculate bacteria growth
- Use the pH formula to calculate the pH of various items