

Study Guide for Exam 2

4B- Know the difference between compound interest and simple interest and how to calculate the accumulated balance in both situations. Also know how to calculate the APY for interest compounded n times a year and compounded continuously.

4C- Know how to use the savings plan formula (this formula will be provided). Also know how to calculate the total and annual returns for investments.

4D- Know how to calculate loan payments (this formula will be provided), the total amount paid over the life of a loan, and the total amount of interest paid over the life of a loan.

8A- Know how to tell the difference between linear and exponential growth/decay.

8B- Know how to calculate the exact half-life for exponentially decreasing quantities and the exact doubling time for exponentially increasing quantities (the approximate formulas will not be needed). Also know how to use these to calculate the value of exponential functions at given points in time. Know the properties of logarithms.

8C- Know how to calculate net growth rates for a population when given a birth rate and a death rate.

8D- Know how to use the relationship between the magnitude of an earthquake and the energy released. The formula $E = (2.5 \times 10^4) \times 10^{1.5M}$ will be provided.

9A- Know how to identify the independent and dependent variables for a function, describe the domain and range, and graph a function.

9B- Know how to write and graph linear functions, and how to use them to answer questions.

9C- Know how to solve logarithmic equations. Also know how to write and graph exponential functions when given a percentage growth rate, doubling time, or half-life.