

## **Exponential Growth and Decay Examples**

- 1) The rate at which deer population increases is equal to 10% of the number of deer present. Initially, there are 100 deer.
  - a) How many will there be in 12 years?
  - b) How long will it take the number of deer to reach 500?
- 2) Cesium-137 is an isotope produced by nuclear fission and is used in medical radiation therapy devices for treating cancer. Its half-life is about 30.17 years. If a sample of Cesium-137 has an initial mass of 100mg, how much would remain after 250 years?
- 3) The student population at UC Davis was 16,532 in 1975 and had grown to 20,147 in 1986. Assuming exponential growth, how many students will there be in 2012?