Example: A radioactive substance decays following the equation $f(t) = 100e^{-0.036t}$. Find the half-life.

Example: The half-life of Iodine-131 is 8 days. Find the annual decay rate. How much will rem
days?

Example: The half-life of Sodium-24 is 15 hours. Find the continuous decay rate. How long will it take until only 10% remains?

Example: An account grows by 6% per year, compounded monthly. How long will it take the account to double in size?

Example: A population of fruit flies doubles every 10 days. Find the annual growth rate. How large will the population be in 20 days? 45 days?

Example: A turkey is taken out of the oven at 165 degrees and placed in a 70 degree room. After 10 minutes, it has cooled to 150 degrees. What will the temp be in 30 minutes? How long will it take to cool to 100 degrees?

Example: A dead body is found. Its temperature was 85 degrees when found. After 30 minutes, its temperature was measured again to be 82 degrees. If the surrounding air temperature is 60 degrees, when did the person die (assuming the body temperature at time of death was 98.6 degrees)?