



# Math 1030 #16c

*inflation*

## Exponential Modeling

*radiometric dating*

### Applications

EX 1: Radioactive Carbon-14 has a half-life of about 5700 years.  
When a living organism dies, Carbon-14 growth discontinues and it only decays from that point forward. If a mammal has been dead for 900 years, what fraction of the carbon-14 still exists in the bone that is found?

EX 2: Suppose that the number of alien encounters doubles every 32 years, and there were 45 alien encounters in the year 2012.

a) How many alien encounters can you expect in 2068?

b) When will the number of alien encounters reach 360?

EX 3: The inflation rate in mid 2014 was 2.1%. If this rate continues for five years, estimate the cost of a \$10,000 year of college in 2019.