1-In the formula A = Iekt , A is the amount of radioactive material remaining from an initial amount I at a given time t and k is a negative constant determined by the nature of the material. An artifact is discovered at a certain site. If it has 53% of the carbon-14 it originally contained, what is the approximate age of the artifact? (carbon-14 decays at the rate of 0.0125% annually.) (Round to the nearest year.)

4240 yr

5079 yr

2206 yr

3760 yr

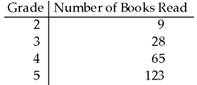
2-Suppose the amount of a radioactive element remaining in a sample of 100 milligrams after x years can be described by A(x) = 100e-0.01657x . How much is remaining after 257 years? Round the answer to the nearest hundredth of a milligram.

425.85 milligrams

7070.31 milligrams

1.41 milligrams

0.01 milligrams

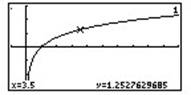
3-Use a graphing calculator to predict about how many books will have been read in the eighth grade.  
  


1000

2000

3000

500

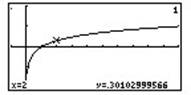
4-Write the logarithmic and exponential equations associated with the display.   
  
g(x) = ln x  
  


ln 3.5 = .54406804435; e.54406804435 = 3.5

ln .54406804435 = 3.5; e3.5 = .54406804435

ln 3.5 = 1.2527629685; e1.2527629685 = 3.5

ln 1.2527629685 = 3.5; e3.5 = 1.2527629685

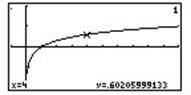
5-Write the logarithmic and exponential equations associated with the display.  
  
f(x) = log x  
  


log .301029995664 = 2; 102 = .301029995664

log .69314718056 = 2; 102 = .69314718056

log 2 = .301029995664; 10.301029995664 =2

log 2 = .69314718056; 10.69314718056 = 2

6-Write the logarithmic and exponential equations associated with the display.  
f(x) = log x  
  


log 4 = .602059991328; 10.602059991328 = 4

log .602059991328 = 4; 104 = .602059991328

log 1.38629436112 = 4; 104 = 1.38629436112

log 4 = 1.38629436112; 101.38629436112 = 4