

MHF4UC: Grade12 Advanced Functions (Public)

Unit 3: Exponential and Logarithmic Functions

Activity 7: Application of Exponential and Logarithmic Functions

Formative Assignment – Answer the following questions.

1. Radium-226 is a radioactive element with a half-life of 1600 years.
 - a. How much of a 1000 g sample of the element will be present after 6400 years?
 - b. How long will it take for the 1000 gram sample to decay to 1 gram?
2. On September 26, 2001, an earthquake in North Bay measured 5.0 on the Richter scale. What is the magnitude of an earthquake 3 times as intense as North Bay's earthquake?
3. How long will it take, to the nearest year, for \$2500 to grow to \$4000, if it is invested at 7%, compounded annually?
4. How much louder is an mp3 player (100dB) when compared to a crying baby (80dB)?
5. A liquid has a pH of 3.46. Find the hydrogen ion concentration $[H^+]$.