% ERROR CALCULATIONS

1. Base your answer to the following question on the *Earth Science Reference Tables*.

   A student measures his latitude to be 50.0° N when it is actually 40.0° N. What is the percent deviation (percentage of error) in his measurement?

   (1) 10%
   (2) 15%
   (3) 20%
   (4) 25%

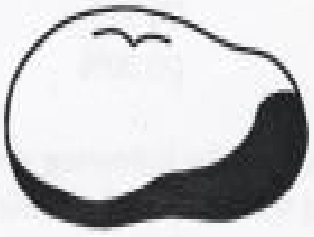
2. Base your answer to the following question on the *Earth Science Reference Tables* and the data table below. The table shows the mass of three liquids, *A*, *B*, and *C*, each of which has a volume of 500 milliliters.

Liquid	Volume (mL)	Mass (g)
A	500.	400.
B	500.	500.
C	500.	600.

   The accepted mass for liquid *C* is 600. grams, but a student measures the mass as 612 grams. What is the percent deviation (percent of error) of the student's measurement?

   (1) 0.02%
   (2) 2.0%
   (3) 20.%
   (4) 98%

3. Base your answer to the following question on the *Earth Science Reference Tables* and the diagrams below. The diagrams represent particles of the same type of sedimentary rock material collected from a streambed. The diagrams are drawn actual size.



Particle A

Particle B

Particle C

(Actual size)

   A student finds the mass of particle *B* to be 2.8 grams. The actual mass of the particle is 2.6 grams. What is the student's percent deviation (percent error)?

   (1) 7.1%
   (2) 2.0%
   (3) 7.7%
   (4) 8.0%

4. A student incorrectly measured the volume of a mineral sample as 63 cubic centimeters. The actual volume was 72 cubic centimeters. What was the student's approximate percent deviation (percentage of error)?

   (1) 9.0%
   (2) 12.5%
   (3) 14.2%
   (4) 15.3%