1. Which action can be performed most accurately using only the human senses?

   A) tearing a sheet of paper into squares whose sides measure 1 centimeter
   B) adding 10 grams of salt to a cup of water
   C) measuring the air pressure of a room
   D) counting 28 shells from a beach

2. Using a ruler to measure the length of a stick is an example of

   A) extending the sense of sight by using an instrument
   B) calculating the percent of error by using a proportion
   C) measuring the rate of change of the stick by making inferences
   D) predicting the length of the stick by guessing

3. A student examined a patch of mud and recorded several statements about footprints in the mud. Which statement is most likely an inference?

   A) There are five footprints in the mud.
   B) The depth of the deepest footprint is 3 centimeters.
   C) The footprints were made by a dog.
   D) The footprints are oriented in an east-west direction.

4. Which statement about a rock sample is most likely an inference?

   A) The rock has flat sides and sharp corners.
   B) The rock is made of small, dark-colored crystals.
   C) The rock has thin, distinct layers.
   D) The rock has changed color due to weathering.

5. Which statement best illustrates a classification system?

   A) A glacier melts at the rate of one meter per year.
   B) Ocean depths are measured by using sonar.
   C) Snowfall predictions for winter storms vary.
   D) Stars are grouped according to their color.

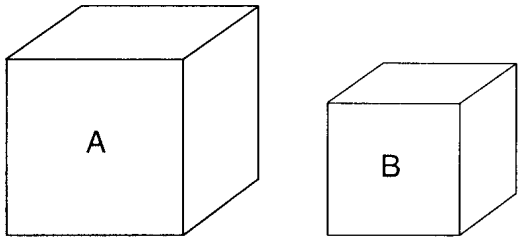
6. Base your answer to the following question on The data table below shows the mass and volume of four different minerals.

Mineral Sample	A	B	C	D
Mass	50 g	60 g	55 g	40 g
Volume	20 mL	15 mL	10 mL	5 mL

   Which mineral has the greatest density?

   A) *A* B) *B* C) *C* D) *D*

7. Base your answer to the following question on the diagrams below, which represent two different solid, uniform materials cut into cubes *A* and *B*.



Mass of A = 320 g
Volume of A = 64 cm^3

Density of B = 3 g/cm^3
Volume of B = 27 cm^3

(Not drawn to scale)

   What is the density of cube *A*?

   A) 0.2 g/cm^3 B) 5.0 g/cm^3
   C) 12.8 g/cm^3 D) 64.0 g/cm^3

8. A rock sample has a mass of 16 grams and a volume of 8 cubic centimeters. When the rock is cut in half, what is the volume and density of each piece?

   A) 8 cm^3 and 0.5 g/cm^3 B) 8 cm^3 and 1.0 g/cm^3
   C) 4 cm^3 and 2.0 g/cm^3 D) 4 cm^3 and 4.0 g/cm^3