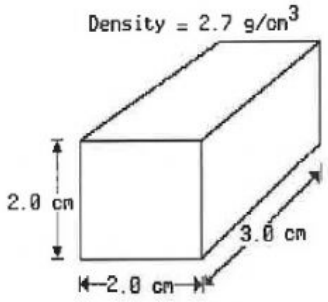
Name: _____

1) What is the density of a rock which has a mass of 35 grams and a volume of 7.0 cubic centimeters?

   1) 5.0 g/cm^3
   2) 42 g/cm^3
   3) 28 g/cm^3
   4) 0.20 g/cm^3

Questions 2 and 3 refer to the following:

The diagram below represents a solid material of uniform composition.



2) When this material is placed in a container of water, it sinks to the bottom of the container. Compared to the density of water, the density of the material is

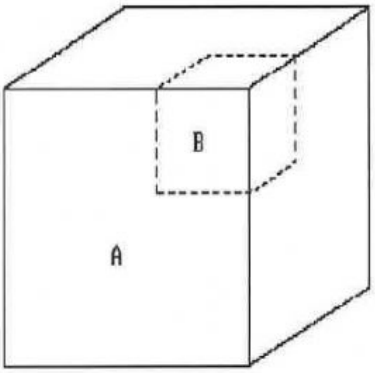
   1) the same
   2) greater
   3) less

3) The mass of this piece of material is approximately

   1) 4.4 g
   2) 9.3 g
   3) 32 g
   4) 0.23 g

Questions 4 and 5 refer to the following:

Object *A* below is a solid cube of uniform material having a mass of 65 grams and a volume of 25 cubic centimeters. Cube *B* is a part of cube *A*.



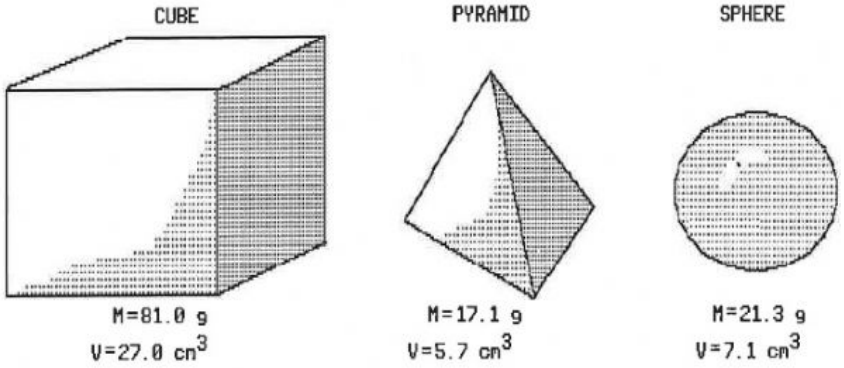
4) If cube *B* is removed from cube *A*, the density of the remaining part of cube *A* will

   1) increase
   2) decrease
   3) remain the same

5) The density of cube *A* is

   1) 0.26 g/cm^3
   2) 3.8 g/cm^3
   3) 0.38 g/cm^3
   4) 2.6 g/cm^3

6) The diagrams below represent three solid objects made of the same uniform material. The name of each shape is shown, along with its mass (M) and volume (V).

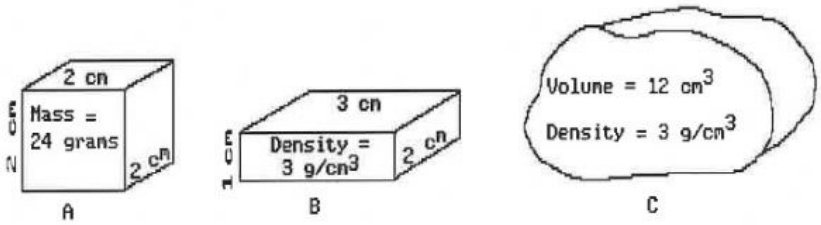


If the cube were cut into four smaller cubes, the density of one of the small cubes, compared to that of the original cube, would be

1) the same
2) one-sixteenth as great
3) one-fourth as great
4) four times as great

Questions 7 and 8 refer to the following:

The diagrams below represent three samples of the same substance, each having a different size and shape. [The diagrams are not drawn to scale.]



7) What is the density of sample A?

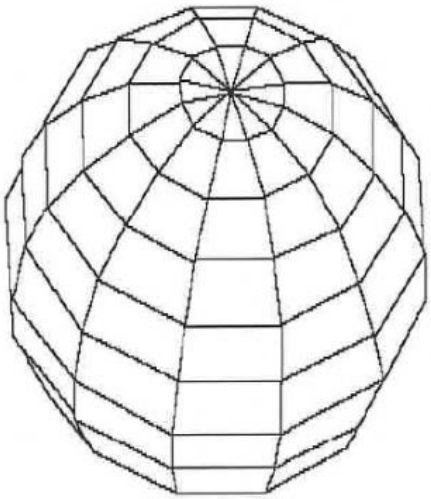
1) 0.33 g/cm^3
2) 4.0 g/cm^3
3) 3.0 g/cm^3
4) 2.0 g/cm^3

8) If sample B were split in half, what would be the density of each piece?

1) 1.5 g/cm^3
2) 3.0 g/cm^3
3) 6.0 g/cm^3
4) 1.0 g/cm^3

Questions 9 and 10 refer to the following:

The diagram below represents a three-dimensional solid object of uniform material.



MASS = 80.0 grams

VOLUME = 25 cm^3

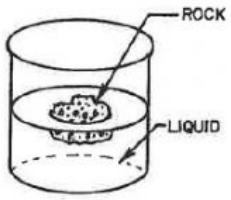
9) What is the density of the object?

1) 1.3 g/cm^3
2) 5.5 g/cm^3
3) 0.3 g/cm^3
4) 3.2 g/cm^3

10) If the object is cut in half, the density of each piece will be

1) the same as that of the original object
2) greater than that of the original object
3) less than that of the original object

11. The diagram below shows a glass jar containing a clear liquid and a floating rock.



Which conclusion about the relative density of the rock and the liquid is true?

(1) The rock is less dense than the liquid.
(2) The rock is more dense than the liquid.
(3) The rock and the liquid have the same density.

12. Compared to the density of liquid water, the density of an ice cube is

(1) always less
(2) always greater
(3) always the same
(4) sometimes less and sometimes greater

13. 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

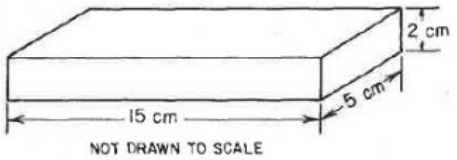
Which mineral has the greatest density?

(1) *A* (3) *C*
(2) *B* (4) *D*

14. A pebble has a mass of 35 grams and a volume of 14 cubic centimeters. What is its density?

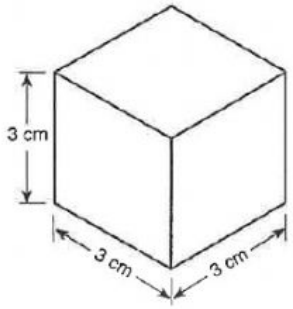
(1) 0.4 g/cm^3 (3) 490 g/cm^3
(2) 2.5 g/cm^3 (4) 4.0 g/cm^3

15. The diagram below represents a rectangular object with a mass of 450 grams. What is the density of the object?



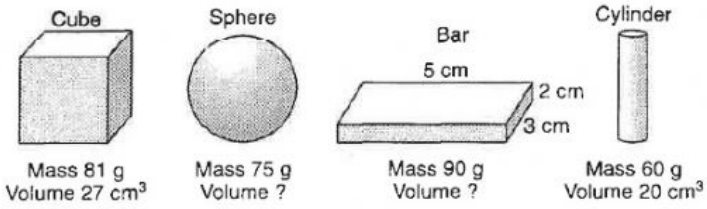
(1) 1 gram per cubic centimeter
(2) 2 grams per cubic centimeter
(3) 3 grams per cubic centimeter
(4) 4 grams per cubic centimeter

16. The mineral shown below is of uniform composition and has a density of 4 grams per cubic centimeter. What is the mass of this mineral?



(1) 9 g (3) 54 g
(2) 12 g (4) 108 g

17. Base your answer to the following question on the diagrams below which represent four solid objects made of the same uniform material. The volumes of the sphere and the bar are not given.

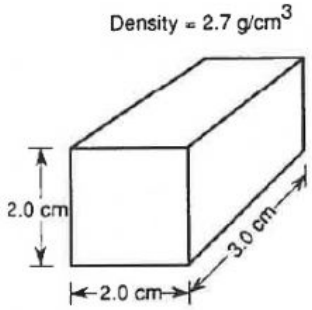


(Not drawn to scale)

What is the density of the bar?

(1) 9.0 g/cm^3
(2) 30.0 g/cm^3
(3) 3.0 g/cm^3
(4) 90.0 g/cm^3

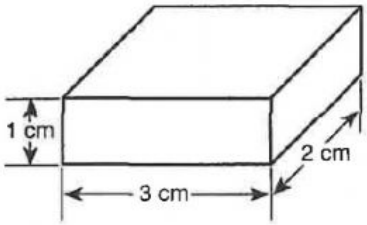
18. Base your answer to the following question on the diagram below, which represents a solid material of uniform composition.



The mass of this piece of material is approximately

(1) 0.23 g
(2) 4.4 g
(3) 9.3 g
(4) 32 g

19. The diagram below represents a solid object with a density of 3 grams per cubic centimeter.

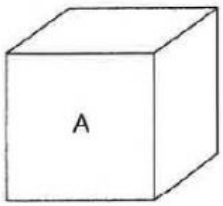


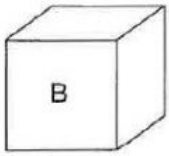
(Not drawn to scale)

What is the mass of this object?

(1) 0.5 g
(2) 2 g
(3) 18 g
(4) 36 g

20. 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*?

(1) 0.2 g/cm^3
(2) 5.0 g/cm^3
(3) 12.8 g/cm^3
(4) 64.0 g/cm^3