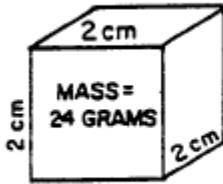
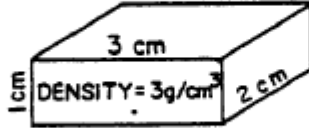


Topic 1 Review Questions – Set 1

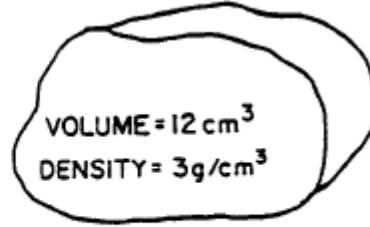
Base your answers to **questions 1-5** on your knowledge of Earth Science, the Earth Science Reference Tables, and the diagrams below. The diagrams represent three samples of the same substance, each having a different size and shape. (The diagrams are not drawn to scale.)



A



B



C

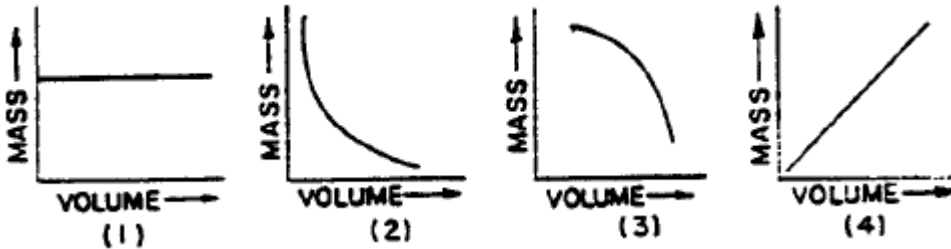
1. Which order of letters ranks the samples by volume from largest to smallest?

- | | |
|-------------|-------------|
| (1) A, B, C | (3) C, B, A |
| (2) A, C, B | (4) C, A, B |

2. What is the density of sample A?

- | | |
|----------------------------|---------------------------|
| (1) 0.33 g/cm ³ | (3) 3.0 g/cm ³ |
| (2) 2.0 g/cm ³ | (4) 4.0 g/cm ³ |

3. Which graph best represents the relationship between the mass and volume of the substance?



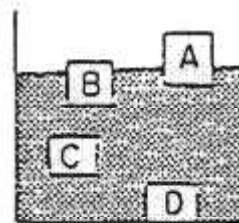
Substances A, B, C, and D are at rest in a container of liquid as shown by the diagram.

4. What is the term used to describe the pull of gravity on an object?

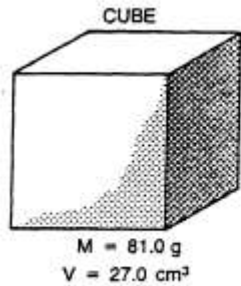
- | | |
|----------|-----------|
| 1 mass | 3 weight |
| 2 volume | 4 density |

5. Which choice lists the substances in order of decreasing density?

- | |
|--------------|
| 1 A, B, C, D |
| 2 A, D, C, B |
| 3 D, C, B, A |
| 4 C, B, A, D |



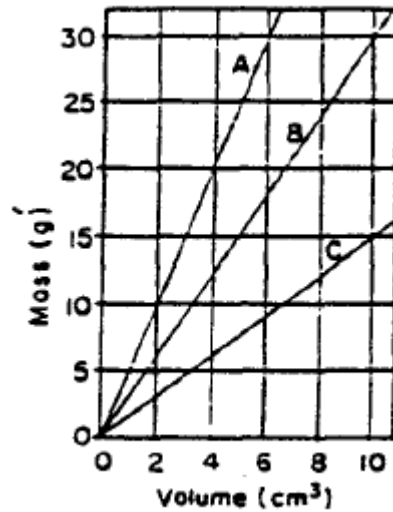
Base your answers to **questions 6-8** on your knowledge of Earth Science, the Earth Science Reference Tables, and the diagrams below. The diagrams represent three solid objects made of the same uniform material. The name of each shape is shown, along with its mass (M) and volume (V).



6. What is the actual length of any one side of the cube?
 - (1) 1.0 cm
 - (2) 2.0 cm
 - (3) 3.0 cm
 - (4) 4.0 cm

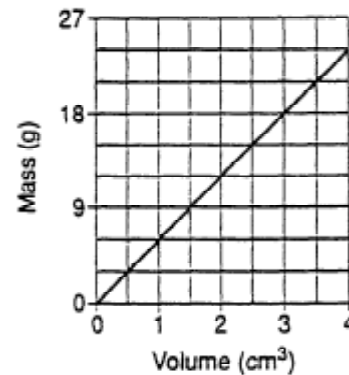
7. According to the graph, which line on the graph below best represents the density of the three samples?
 - (1) A
 - (2) B
 - (3) C

8. Line A represents a different unknown substance. If you had a 3 cm³ sample of this unknown substance, what would the mass of this sample be?
 - (1) 5 grams
 - (2) 10 grams
 - (3) 15 grams
 - (4) 20 grams

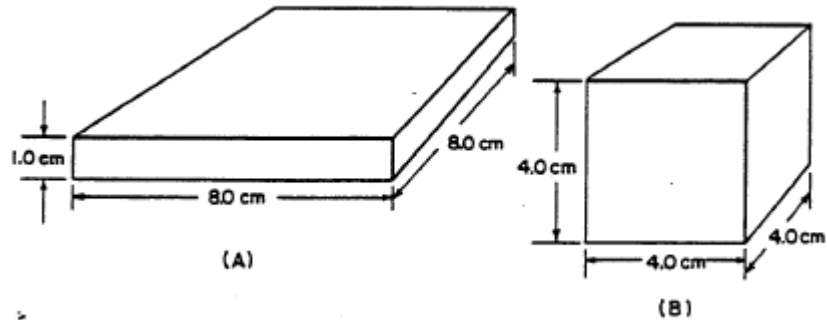


9. The mass of a solid is measured to be 76.5 grams. If the known density of the solid is 3.0 g/cm³, what would be the volume of that solid?

10. The graph to the right shows the relationship between the mass and volume of a mineral. What is the density of this mineral?
 - (1) 6.0 g/cm³
 - (2) 9.0 g/cm³
 - (3) 3.0 g/cm³
 - (4) 4.5 g/cm³



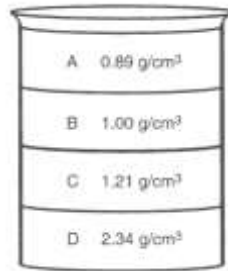
Base your answers to **questions 11-13** on your knowledge of earth science, the Earth Science Reference Tables, and the diagrams below. Objects A and B are solid and made of the same uniform material.



11. If object B has a mass of 173 grams, what is its density?
- (1) 0.37 g/cm³ (3) 3.7 g/cm³
(2) 2.7 g/cm³ (4) 5.7 g/cm³
12. A third object is made of the same uniform material as object B, but it is spherical in shape. How does the density of this third object compare to the density of object B?
- (1) It is one-half as dense as B. (3) It is the same density as B.
(2) It is twice as dense as B. (4) It is four times as dense as B.
13. If substance B was placed in a bucket of water it would
- (1) float at the top
(2) sink
(3) remain suspended in the middle of the water halfway from the top and bottom
14. As elevation above sea level increases, an object's weight will
- (1) decrease because gravitational pull increases
(2) decrease because gravitational pull decreases
(3) increase because gravitational pull increases
(4) remain the same
15. Which of the following definitions best describes the measurement of mass?
- (1) the amount of mass in a given volume
(2) the amount of space an object takes up
(3) the amount of gravitational pull on an object
(4) the amount of matter in an object
16. Which of the following measurements made in the science lab can one measure without using a formula?
- (1) distance (3) volume of a large cube
(2) density (4) speed

17. The diagram below shows a beaker with four different liquids and their densities.
If an object that has a density of 1.73 g/cm^3 is placed in the beaker, where will the ball come to rest?

- (1) on top of liquid A
- (2) between liquids B and C
- (3) between liquids C and D
- (4) on the bottom of the beaker



18. If you have an aluminum bar with a density of 2.7 g/cm^3 , and you break that bar into 2 equal pieces, what would the density of each piece be?

19. What is the density of a substance that has a volume of 13.4 mL and a mass of 115.8 grams?
(Show all work and round to the nearest tenths.)

20. Round 6.7954 to the nearest tenths place

21. A solid cube of uniform material has a mass of 65 grams. One side of the cube measures to be 3 cm. What is the density of the cube?

- (1) 0.4 g/cm^3
- (2) 1.5 g/cm^3
- (3) 2.4 g/cm^3
- (4) 24.9 g/cm^3

22. The density of a piece of steel is 7.1 g/mL . If a student does water displacement and finds out that the piece of steel has a volume of 5mL. What is the mass of that piece of steel?

23. Clearly explain why an object would weigh less on the Moon.

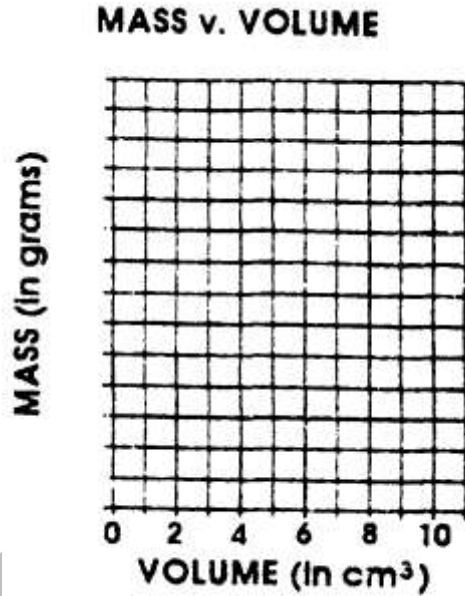
Base your answers to **questions 24-28** on your knowledge of Earth Science, the Reference Tables, and the data in Tables I and II below. Tables I and II show the volume and mass of three samples of mineral A and three samples of mineral B.

Table I: Mineral A

Sample No.	Volume	Mass
1	2.0 cm ³	5.0 g
2	5.0 cm ³	12.5 g
3	10.0 cm ³	25.0 g

Table II: Mineral B

Sample No.	Volume	Mass
1	3.0 cm ³	12.0 g
2	5.0 cm ³	20.0 g
3	7.0 cm ³	28.0 g



24. Mark an appropriate scale on the axis labeled "Mass in grams".
25. Plot a line graph for mineral A and label the line "mineral A."
26. Plot a line graph for mineral B and label the line "mineral B."
27. Write the formula for density, substitute the data for sample 3 of mineral A, and solve with the correct units.

28. Write the formula for density, substitute the data for sample 3 of mineral B, and solve with the correct units.