

Test  
Measurement & Nanotechnology  
Grades 6 - 12

Answer the following True or False: **Circle One**

1. A liter contains 1,000 smaller units called milliliters.

True or False

2. A liter has a Volume of 1,000 cubic centimeters.

True or False

3. If we convert 6 543.219 meters, to kilometers we get 6 543 219 km.

True or False

4. Nanoscience is the study and development of materials and structures in the range of 1 nm ( $10^{-9}$  m) to 100 nanometers ( $100 \times 10^{-9}$  m =  $10^2 \times 10^{-9}$  =  $10^{-7}$ ) and the unique properties that arise at that scale.

True or False

5. An angstrom X is within the nanoscale but not the subatomic scale.

True or False

End of True/False

Answers: 1. T 2. T 3. F 4. T 5. F 6. (c)  
7. (d) 8. (b) 9. (e) 10 (c)

Answer the following Multiple Choice Questions:  
**Circle One** answer for each question.

6. A vitamin C tablet has a mass of 500 mg. That is the same as \_\_\_\_.

(a) 5 g (b) 0.05 g (c) 0.5 g (d) 0.5 kg (e)

7. The length of a pencil would probably best be measured in \_\_\_\_.

(a) milligrams (b) meters (c) decameters  
(d) centimeters (e) micrometers

8. The unit of volume that is the same as one cubic decimeter is the \_\_\_\_.

(a) meter (b) liter (c) gram  
(d) hectometer (e) none of these

9. Determine the order of magnitude difference in the sizes of the radii for Atoms ( $10^{-10}$  meter) compared with neutrons ( $10^{-15}$  meter).

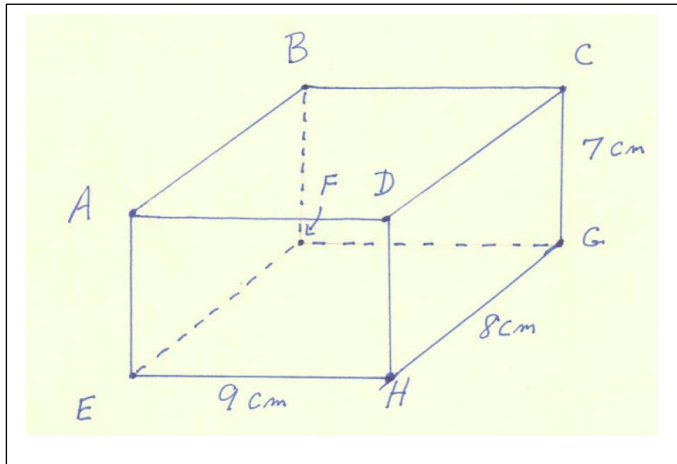
(a) Order 4 (b) Order 2 (c) order 12  
(d) Order 6 (e) none of these

10. How long has it been legal to use the metric system in the U.S.?

(a) 1958.  
(b) 1975  
(c) 1866  
(d) 1921.  
(e) None of these.

More Metric Questions including:  
Surface Area, Volume & Mass

Consider the box (rectangular Prism) 7 cm by 8 cm by 9 cm and then answer the questions;



Answer the Follow True or False: Circle the correct Answer and write the answer in the space provide.

1. The 7 cm by 8 cm by 9 cm box has a capacity less than one half liter (500 cm<sup>3</sup> or 500 mL).

(a) TRUE (b) FALSE 1. Answer \_\_\_\_\_

2. The 7 cm by 8 cm by 9 cm box has a Volume of 500 cm<sup>3</sup>.

(a) TRUE (b) FALSE 2. Answer \_\_\_\_\_

End of True/False

Answers: 1. (b) Volume = 504 cm<sup>3</sup> or 504 mL 2. (b)

3. (b) {7x8 + 7 x 9 + 8 x 9 twice } 4. (d) 5. (c)

Answer these Multiple Choice Questions:

3. What is the surface area of the 7 cm by 8 cm by 9 cm box?

3. Answer \_\_\_\_\_

(a) 191 cm<sup>2</sup> (b) 382 cm<sup>2</sup> (c) 94 cm<sup>2</sup> (d) 32 cm<sup>2</sup>

(e) None of these

4. If the box is filled brim full of water what is the mass of the water? 4. Ans = \_\_\_\_\_ g

(a) 94 g (b) 382 g (c) 500 g (d) 504 g

(e) None of these

5. Consider a Liter Cube (10 cm by 10 cm by 10 cm) and compare with the box above 7 cm by 8 cm by 9 cm. What is the difference in their capacity (volumes) in mL.

5. Ans = \_\_\_\_\_

(a) 1 000 mL (c) 94 mL (c) 496 mL

(d) 940 mL (e) None of these

6. Hello my name is \_\_\_\_\_

and I am \_\_\_\_\_ cm tall.

7. Hello my School is \_\_\_\_\_

And we like the Metric System because: \_\_\_\_\_ \*\*\*

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The End