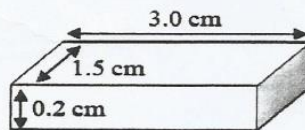


Name:

Student No:

Choose the correct answer:

1) What is the mass "in g" of a piece of metal ($d = 7.14 \text{ g/cm}^3$), as shown in:



$$d = \frac{m}{V} \quad V = 3 \times 1.5 \times 0.2 = 0.9 \text{ cm}^3$$

$$m = 7.14 \times 0.9 = 6.42 \text{ g}$$

- A) 21.42 **B) 6.42** C) 1.43 D) 10.71

2) Non-SI unit from the following, is:

- (A) kilogram (kg) (B) second (s) **(C) inch (in)** (D) meter (m)

3) Which of the following is a chemical change?

- (A) Oxidation of iron in air.** B) Mixing water and oil.
C) Melting ice. D) Dissolving sugar in water.

4) Which is NOT an extensive property of matter?

- A) Volume B) Mass C) Length **(D) Density**

5) The melting point of bromine is $-7 \text{ }^\circ\text{C}$. What is the melting point in $^\circ\text{F}$?

- (A) 19.4** B) -28.8 C) -13.8 D) 39.3

$$^\circ\text{C} = \frac{5}{9} (\text{F} - 32)$$

$$(-7 \times \frac{9}{5}) + 32 = \text{F}$$

6) How many significant figures are in "4.3070"?

- A) 1 **(B) 5** C) 4 D) 3

7) How many significant figures should be reported for $(8.5701 + 2.38)$?

- A) 6 B) 5 **(C) 4** D) 3

$$= 10.9501 \xrightarrow{\text{round}} 10.95$$

4 s.f.

8) Walking consume 5.0 kcal per minute. How many hours are required to consume 1881 kJ? (1 kcal = 4.18 kJ)

- (A) 1.5** B) 1.25 C) 1.75 D) 2.5

$$5 \text{ kcal} \rightarrow 1 \text{ min}$$

$$1881 \text{ kJ} \rightarrow \text{h} (?)$$

$$1881 \text{ kJ} \times \frac{1 \text{ kcal}}{4.18 \text{ kJ}}$$

$$= 450 \text{ kcal}$$

$$\text{So, } 5 \text{ kcal} \rightarrow 1 \text{ min}$$

$$450 \text{ kcal} \rightarrow \text{min} (?)$$

$$\text{Time} = \frac{450}{5} = 90 \text{ min}$$

$$90 \text{ min} \times \frac{1 \text{ h}}{60 \text{ min}} = 1.5 \text{ h}$$

9) The gold foil experiment "Rutherford's experiment" confirmed that:

- A) atoms are composed of only electrons.
B) atoms are composed of only protons.
C) electrons are located in the atom nucleus.
(D) protons are located in the atom nucleus.

Name:

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10) How many protons (p), neutrons (n), and electrons (e) are there in ^{39}Cl atom?

- A) 17 p, 17 n, and 22 e
B) 17 p, 22 n, and 17 e
C) 17 p, 39 n, and 17 e
D) 22 p, 17 n, and 17 e

39
17 Cl
So 17 p & 17 e (neutral atom)
 $39 - 17 = 22 n$

11) Two isotopes of an element differ in their:

- A) atomic masses.
B) atomic numbers.
C) numbers of protons.
D) numbers of electrons.

12) How many protons (p) and electrons (e) are present in a Ca^{2+} ion?

- A) 20 p and 21 e
B) 18 p and 20 e
C) 20 p and 18 e
D) 22 p and 20 e

Ca P = 20 (atomic no.)
 $e = 20 - 2 = 18$

13) The formula of the ionic compound formed by calcium ions and phosphate ions, is:

- A) CaPO_4
B) $\text{Ca}(\text{PO}_4)_3$
C) Ca_3PO_4
D) $\text{Ca}_3(\text{PO}_4)_2$

$\text{Ca}^{+2} + \text{PO}_4^{-3}$

14) The correct name of CoCl_3 is:

- A) cobalt chloride.
B) cobalt trichloride.
C) cobalt(III) chloride.
D) cobalt(III) trichloride.

15) The correct name for $\text{CuSO}_4 \cdot 5 \text{H}_2\text{O}$, is:

- A) copper(II) sulfate hydrate.
B) copper(II) sulfate pentahydrate.
C) copper(I) sulfate pentahydrate.
D) copper sulfate pentahydrate.