

SI MOCK EXAM #1

1. The correct scientific notation for 300.0 is:
  - a.  $3.000 \times 10^2$
  - b.  $3 \times 10^2$
  - c.  $3.00 \times 10^2$
  - d. None of the above
  
2. In the measurement 57.89 cm, which digit is estimated?
  - a. 5
  - b. 7
  - c. 8
  - d. 9
  
3. How many significant figures in 0.000120
  - a. 7
  - b. 6
  - c. 2
  - d. 3
  
4. Calculate the value and give the correct number of significant figures:  $8.123 \times (2.67 - 2.00)$ 
  - a. 5.4
  - b. 5.5
  - c. 5.44
  - d. 5.442
  
5. The prefix for 0.000000001 is:
  - a. Kilo
  - b. Deca
  - c. Nano
  - d. Pico
  - e. None of the above
  
6. A raisin has a mass of one gram. One gram is equivalent to which term.
  - a. 1000 micrograms
  - b. 1000 kilograms
  - c. 100 centigrams
  - d. None of the above

7. An atom that has lost an electron is:
- Isotope
  - Anion
  - Cation
  - Neutral
8. How many  $\text{cm}^3$  are there in  $2.5\text{m}^3$ ?
- $2.5 \times 10^6$
  - $2.5 \times 10^{-6}$
  - None of the above
  - $3.0 \times 10^6$
9. What is the density in  $\text{g/mL}$  of an object that has a mass of 14.01 grams and when placed into a graduated cylinder, causes the water level to rise from 26.2 mL to 30.8 mL?
- 3.05
  - 3.057
  - 64.5
  - 3.0
10. What are the characteristics of gases?
- Definite volume and shape
  - Indefinite shape indefinite volume
  - Indefinite shape and definite volume
  - None of the above
11. Compounds can be described as:
- 2 or more elements in variable proportions
  - Composed of 2 or more different types of atoms/molecules
  - Homogeneous mixtures
  - 2 or more elements in fixed definite proportions
12. Which of the following is not a metal?
- H
  - Mg
  - Li
  - They are all metals
13. Which pair of elements are the most similar to one another?

- a. Be and Mg
- b. B and C
- c. H and He
- d. Si and P

14. Which is a chemical property?

- a. Melting of ice
- b. The color of a solid
- c. The flammability of a compound
- d. The smell of a metal

15. What is the element for "X"?  ${}_{28}^{59}\text{X}$

- a. Ce
- b. Ni
- c. Ga
- d. None of the above

16. What common ion does Cl form?

- a. 1+
- b. 2+
- c. 3-
- d. 1-

17. What is the element symbol in the seventh period, group eight?

- a. Hs
- b. Sm
- c. I
- d. Pm

18. Which of the following is a nonmetal, a halogen, and a main group element?

- a. Nitrogen
- b. Iron
- c. Chlorine
- d. Neon

19. How many seconds are there in a decade? (1 decade= 12 years)

20. What is the gas mileage of a car in km/L if it gets a mileage of 40.6 miles per gallon?

(1 mile = 1.609 km, 1 gal= 3.785L)

21. Complete the table.

Symbol	A	Z	Protons	Neutrons	Electrons	Charge
Ca <sup>2+</sup>				20		2+
	6.941	3			2	
F <sup>-</sup>	19.00					

(round neutrons to nearest whole number)

22. Gallium has two naturally occurring isotopes: Ga-69 with a mass of 68.9256 and a natural abundance of 60.11%. What is the mass and natural abundance of Ga-71, given that the atomic mass of Gallium is 69.723 amu?