C1401- Tutorial 1 27-08-2018

1. Which of the following would **NOT** be a compound?

A. HCl B. CS_2 C. H_2O D. CH_4 E. I_2

2. Which of the following is **FALSE** regarding compounds?

A. they consist of more than one element combined

B. a compound has a set of properties distinct from the individual elements from from which it is made

C. when a compound is separated into its elements, the elements will have the same properties of the compound

D. Br_2 would not be considered a compound

E. NaCl would be considered a compound

3.A sample of material A is collected in Maseru and found to consist of 94% oxygen and 6% Hydrogen by mass. Another sample of material A is collected in Maputsoe and found to contain 94% oxy gen and 6% hydrogen. What kind of substance is this?

A. Element B. Compound C. Mixture D. B and C E. A, B, and C

4. Which of the following is **NOT** a physical property?

A.copper has a reddish gold color

B. iron reacts with oxygen to form rust

C. table salt dissolves easily in water

D. silver is an excellent conductor of electricity

E. all of these are physical properties

5. Which of the following is **NOT** a chemical property?

A. Silver tarnishing into silver oxide B. gasoline burning in air C. candle wax burning

D. candle wax melting E. iron rusting

6. In the following list, only _____ is not an example of a chemical change.

A. dissolution of a penny in nitric acid B. the condensation of water vapor C. a burning candle

D. the formation of polyethylene from ethylene E the rusting of iron

7. Which of the following would be an intensive physical property? answer

A. The color of the liquid bromine is reddish brown B. The mass of the iron pipe is 25.67 grams

C. The aluminum block engine has a density of 2.7 g/ mL D. Both A and B E. Both A and C

8. Tungsten is a substance with an extremely high melting point and is used in light bulb filaments. Which of the following would be an extensive property of tungsten? answer

A. Tungsten melts at 3422 ^{o}C B. Tungsten has a silver color

C. Tungsten has a specific heat of 0.134 J/g^{o}C D. A tungsten filament is 10 cm long

E. A tungsten block will have a density of 15.6 g/mL

9. A combination of sand, salt, and water is an example of a _____.

A. homogeneous mixture B. heterogeneous mixture C. compound D. pure substance E solid

10. The accepted value for the mass of an apple is 155g. Answer the following questions based on the data table.

	Trial 1	**Trial 2**	**Trial 3**	**Trial 4**
Student 1	150 g	153 g	159 g	162 g
Student 2	155 g	152 g	156 g	154 g
Student 3	159 g	160 g	160 g	159 g
Student 4	150 g	148 g	155 g	161 g

(a) Which of student was the most accurate? (b) Which student is the most precise?

11. Three different people weigh a standard mass of 2.00 g on the same balance. Each person obtains a reading of exactly 7.32 g for the mass of the standard. These results imply that the balance that was used is

(a) both accurate and precise (b) precise but not accurate
(c) accurate but not precise (d) neither accurate nor precise

12. How many significant figures are there in 1001? A. 4 B. 2 C. 1 D. 3

13. In the final answer of the expression

$$\frac{(29.2 - 20.2)(1.79 \times 10^5)}{1.37}$$

the number of significant figures would be: A. 1 B. 2 C. 3 D. 4

14. Final result of the expression

10.23 + 11.234 - 22.1 – 11.2345

should be reported to the same number of decimal places as: A. 10.23 B. 11.234 C. 22.1 D. 11.2345

15. Which of the following alternatives represents an incorrect scientific notation for the number 123.45 ?

A. 12345.00 x 10^{-2} B. 1.23 x 10^{2} C. 0.0123 x 10^{3} D. 12.34 x 10^{-1}

16. How many significant figures does the following number have: 305500

A. 6 B. 4 C. 3

17. How many significant figures does the following number have: 4.57 x 10^{x7}

A. 4 B. 10 C. 3

18. How many significant figures does the following number have: 0.00056006

A. 5 B. 8 C. 3

19. How many significant figures does the following number have: 930000000000

A. 12 B. 3 C. 2

20. Calculate the answer to the correct number of significant figures: 42 x 5

A. 210 B. 200 C. 205

21. Calculate the answer to the correct number of significant figures: 54.44 + 45.5

A. 99.94 B. 99.9 C. 99.5

22. Calculate the answer to the correct number of significant figures: 405 / 50

A. 8 B. 8.10 C. 8.1

23. Calculate the answer to the correct number of significant figures: (4.00 x 10^{x7}) x (5.34 x 10^{x5})

A. 21.36 x 10^2 B. 21.4 x 10^12 C. 21.4 x 10^2

24. Calculate the answer to the correct number of significant figures: (7.4 x 10^{x-3}) / (6.77 x 10^{x-4})

A. 50.098 x 10^{x-7} B. 50 x 10^{x-7} C. 50.0 x 10^{x-7}