

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) In the following list, only _____ is not an example of matter. 1) _____
A) table salt
B) planets
C) light
D) dust
E) elemental phosphorus
- 2) A combination of sand, salt, and water is an example of a _____. 2) _____
A) solid
B) compound
C) pure substance
D) heterogeneous mixture
E) homogeneous mixture
- 3) Which one of the following has the element name and symbol correctly matched? 3) _____
A) N, neon
B) S, sodium
C) B, bromine
D) Tn, tin
E) Fe, iron
- 4) Which one of the following is often easily separated into its components by simple techniques such as filtering or decanting? 4) _____
A) compounds
B) elements
C) heterogeneous mixture
D) solutions
E) homogeneous mixture
- 5) Which states of matter are significantly compressible? 5) _____
A) gases only
B) solids and liquids
C) solids only
D) liquids and gases
E) liquids only
- 6) For which of the following can the composition vary? 6) _____
A) element
B) both homogeneous and heterogeneous mixtures
C) homogeneous mixture
D) pure substance
E) heterogeneous mixture

- 7) An element cannot _____. 7) _____
A) be a pure substance
B) be separated into other substances by chemical means
C) be part of a homogeneous mixture
D) interact with other elements to form compounds
E) be part of a heterogeneous mixture
- 8) Gases and liquids share the property of _____. 8) _____
A) definite volume
B) compressibility
C) incompressibility
D) definite shape
E) indefinite shape
- 9) Which one of the following is an intensive property? 9) _____
A) heat content
B) amount
C) temperature
D) mass
E) volume
- 10) Of the following, _____ is the smallest mass. 10) _____
A) 2.5×10^9 fg
B) 2.5×10^{10} ng
C) 25 kg
D) 2.5×10^{15} pg
E) 2.5×10^{-2} mg
- 11) Which one of the following is the highest temperature? 11) _____
A) 302 K
B) 96°F
C) 38°C
D) none of the above
E) the freezing point of water
- 12) Which of the following liquids has the greatest density? 12) _____
A) 13 cm³ with a mass of 23 g
B) 210 cm³ with a mass of 12 g
C) 54 cm³ with a mass of 45 g
D) 3.5 cm³ with a mass of 10 g
E) 0.022 cm³ with a mass of 0.10 g

- 13) Osmium has a density of 22.6 g/cm^3 . What volume (in cm^3) would be occupied by a 21.8 g sample of osmium? 13) _____
- A) 0.965
 - B) 1.04
 - C) 2.03×10^{-3}
 - D) 2.03×10^3
 - E) 493
- 14) Precision refers to _____. 14) _____
- A) how close a measured number is to the true value
 - B) how close a measured number is to the calculated value
 - C) how close a measured number is to zero
 - D) how close a measured number is to infinity
 - E) how close a measured number is to other measured numbers
- 15) Accuracy refers to _____. 15) _____
- A) how close a measured number is to zero
 - B) how close a measured number is to infinity
 - C) how close a measured number is to the true value
 - D) how close a measured number is to the calculated value
 - E) how close a measured number is to other measured numbers
- 16) The number with the most significant zeros is _____. 16) _____
- A) 2.5100000
 - B) 0.02500001
 - C) 2.501×10^{-7}
 - D) 0.00002510
 - E) 250000001
- 17) In which one of the following numbers are all of the zeros significant? 17) _____
- A) 0.1000
 - B) 100.090090
 - C) 00.0030020
 - D) 0.143290
 - E) 0.05843
- 18) Which one of the following is not a physical property of water? 18) _____
- A) It is clear and colorless.
 - B) It boils at 100°C at 1 atm pressure.
 - C) It reacts rapidly with potassium metal to form potassium hydroxide.
 - D) It freezes at 0°C at 1 atm pressure.
 - E) Water exists in solid, liquid and gaseous forms.

- 19) Of the following, only _____ is an extensive property. 19) _____
A) freezing point
B) density
C) pressure
D) mass
E) boiling point
- 20) Which of the following are chemical processes? 20) _____
1. rusting of a nail
2. freezing of water
3. decomposition of water into hydrogen and oxygen gases
4. compression of oxygen gas
A) 1, 2 B) 1, 3, 4 C) 1, 4 D) 2, 3, 4 E) 1, 3
- 21) Which of the following is a chemical property of water? 21) _____
A) It freezes at 0°C at 1 atm pressure.
B) It boils at 100°C at 1 atm pressure.
C) It is a liquid at room temperature.
D) It can be decomposed into oxygen and hydrogen gases.
E) These are all chemical properties of water.
- 22) Intensive properties _____ depend on the amount of matter present. Extensive properties _____ depend on the amount of matter present. 22) _____
A) do, don't
B) don't, don't
C) don't, do
D) do, sometimes
E) do, do
- 23) The SI unit for mass is _____. 23) _____
A) kilogram
B) gram
C) troy ounce
D) pound
E) none of the above
- 24) The SI unit of temperature is _____. 24) _____
A) °F B) T C) °C D) t E) K
- 25) The temperature of 25°C is _____ in Kelvins. 25) _____
A) 138 B) 103 C) 166 D) 248 E) 298