

Practise Exam Chapter 1

1. A distance of 18×10^{-3} meters is numerically equivalent to
 - A) 1.8 micrometers
 - B) 1.8 millimeters
 - C) 0.18 meters
 - D) 1.8 centimeters
 - E) 18 kilometers

2. How many cubic inches are in 1.00 dm^3 ? $1 \text{ in} = 2.54 \text{ cm}$.
 - A) 61.0 in^3
 - B) 155 in^3
 - C) 394 in^3
 - D) $1.64 \times 10^4 \text{ in}^3$
 - E) $383 \times 10^2 \text{ in}^3$

3. Mercury, which has a density of 13.595 g cm^{-3} , is usually stored in iron vessels for shipment. Typically, these vessels have a capacity of 2.60 liters. How many pounds of mercury would a filled container hold? $1 \text{ pound} = 0.4536 \text{ kg}$, $1 \text{ liter} = 1 \text{ dm}^3 = 1000 \text{ cm}^3$.
 - A) 77.9 pounds
 - B) 86.7 pounds
 - C) 11.5 pounds
 - D) 16.0 pounds
 - E) 42.6 pounds

4. How many micrometers are there in 3.672 km?
 - A) 3.672×10^6
 - B) 2.723×10^{-7}
 - C) 2.723×10^{-4}
 - D) 3.672×10^9
 - E) 3.672×10^3

5. Which one of the following is an SI base unit?
 - A) dyne
 - B) newton
 - C) milliliter
 - D) ampere
 - E) joule

6. The SI base units of temperature and mass respectively are
- A) degree and gram
 - B) kelvin and kilogram
 - C) celsius and milligram
 - D) °K and kilogram
 - E) kelvin and gram
7. The boiling point of barium is 725 °C. Determine the equivalent value in °F
- A) 435 °F
 - B) 1337 °F
 - C) 1247 °F
 - D) 1362 °F
 - E) 1273 °F
8. How many significant figures should there be in result of the operation, 8.5201 + 1.93?
- A) 1
 - B) 2
 - C) 3
 - D) 4
 - E) 5
9. The SI prefixes giga and micro represent, respectively:
- A) 10^9 and 10^{-6}
 - B) 10^{-9} and 10^{-6}
 - C) 10^6 and 10^{-3}
 - D) 10^3 and 10^{-3}
 - E) 10^{-9} and 10^{-3}
10. A mixture with more than one chemical substance can nevertheless exist as only a single phase. ___
- A) True
 - B) False
11. The two major types of pure substances are
- A) compounds and elements
 - B) compounds and solutions
 - C) elements and mixtures
 - D) mixtures and solutions
 - E) solutions and elements

12. Which one of the following is a physical change?
- A) when ignited with a match in open air, paper burns
 - B) in cold weather, water condenses on the inside surface of single pane windows
 - C) when treated with bleach, some dyed fabrics change color
 - D) when heated strongly, sugar turns dark brown
 - E) grape juice left in an open unrefrigerated container turns sour
13. Which one of the following properties is a chemical property?
- A) combustibility
 - B) volatility
 - C) viscosity
 - D) malleability
 - E) ductility
14. A chemical reaction must be used to separate
- A) air into oxygen, nitrogen, and other components
 - B) a compound into its elements
 - C) gases from liquids
 - D) a mixture into its components
 - E) solids from liquids
15. Which one of the following does not involve a chemical change?
- A) a fish that is left for some time in an unrefrigerated place decomposes
 - B) apple juice which is left in an open bottle ferments
 - C) a loaf of bread rises and its volume expands when it is baked in an oven
 - D) when a lake starts to freeze in winter, ice is formed on the surface
 - E) when sugar is fermented under certain conditions, alcohol is produced
16. Which one of the following is a chemical change?
- A) when blood is washed with 3% hydrogen peroxide solution, it changes color
 - B) when water is boiled, it forms steam
 - C) when a solid stick of butter is heated, it becomes a liquid
 - D) when blue paint is mixed with yellow paint, a green color is obtained
 - E) when a bar of gold metal is pounded with a hammer, it flattens out

17. All of the following properties of a sample of a pure substance can be used for identification except its
- A) density
 - B) freezing point temperature
 - C) mass
 - D) melting point temperature
 - E) solubility in 100 g of water (g solute/100 g water at 25 °C)
18. Distillation can readily be used to separate
- A) the elements in a compound
 - B) a heterogeneous mixture of two solids
 - C) a homogeneous solution of two solids
 - D) iron filings from sugar and salt crystals
 - E) a liquid solvent from a dissolved solid
19. An example of a chemical compound is
- A) gun metal
 - B) brass
 - C) bronze
 - D) granite
 - E) table salt
20. Which element below is a liquid which conducts electricity very well at ordinary temperatures and pressures?
- A) bromine
 - B) copper
 - C) argon
 - D) mercury
 - E) cadmium

Answer Key

1. D
2. A
3. A
4. D
5. D
6. B
7. B
8. D
9. A
10. A
11. A
12. B
13. A
14. B
15. D
16. A
17. C
18. E
19. E
20. D