Chemistry A: Chapter 2 Practice Test

Define the following terms:
Accuracy   certain digits   uncertain digits
Precision   significant digits   percent error
Scientific notation

1. What is the best type of graph to use with percent data?
   a. bar   c. line
   b. circle   d. scatter
2. What is the best type of graph to use with data for height and shoe size for students in class?
   a. bar   c. line
   b. circle   d. scatter
3. The accepted value for the density of aluminum is 2.70 g/cm^3. A student records the mass of a
   35.00-cm^3 block of aluminum as 96.2 grams. What is the percent error for the density
   measurement?
   a. 1.85%   c. 2.75%
   b. 2.70%   d. 61.2%
4. How long is a lab table in inches if it measures12.5 staplers long? 1 stapler is 17.0 cm and
   1.0 inch = 2.54 cm
   a. 31.75 in   c. 212.5 in
   b. 83.6 in   d. 539.8 in
5. Which is the product of these numbers, to the appropriate number of significant digits?
   $56.2 \times 9.2057 =$
   a. 517   c. 517.36
   b. 517.4   d. 517.00
6. How many significant digits are in the value 3,803,000?
   a. 4   c. 6
   b. 5   d. 9
7. How many significant digits are in the value 0.00020500?
   a. 3   c. 6
   b. 5   d. 8

8. The accepted value is 43.87. Which correctly describes this student's experimental data?

Trial	Measurement
1	31.05
2	31.08
3	30.99

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

9. The diameter of a bacteria cell particle is 0.000 419 000 m. What is this number in scientific notation?
   a. 4.19×10^{-4} m   c. 4.19×10^{-3} m
   b. 4.19×10^{4} m   d. 41.9×10^{-4} m

10. Which group of measurements is the most precise? (Each group of measurements is of a different object)
    a. 16 g, 15 g, 17 g
    b. 26 g, 28 g, 30 g
    c. 36.0 g, 35.0 g, 37.0 g
    d. 16.5 g, 16.0 g, 17.0 g

11. Which of the following measurements contains two significant figures?
    a. 0.007 00 L
    b. 0.000 48 L
    c. 0.003 04 L
    d. 0.005 80 L

12. Which of the following measurements is expressed to three significant figures?
    a. 1053 mg
    b. 0.005 m
    c. 7.2×10^{-7} km
    d. 0.0300 mm

13. Express the sum of 7.68 m and 4.1 m using the correct number of significant digits.
    a. 10 m
    b. 11.8 m
    c. 11.78 m
    d. 12 m

14. Which of the following masses is the largest?
    a. One microgram
    b. One kilogram
    c. One milligram
    d. One decigram

15. What is the temperature of absolute zero measured in K?
    a. 100 K
    b. 32 K
    c. 273 K
    d. 0 K

16. What is the temperature of absolute zero measured in °C?
    a. -273°C
    b. 0°C
    c. 100°C
    d. 273°C

17. What is the temperature –56 °C in K?
    a. -329 K
    b. -56 K
    c. 217 K
    d. 329 K

18. What is the quantity 0.8410 meters expressed in centimeters?
    a. 0.084 cm
    b. 8.41 cm
    c. 84.10 cm
    d. 841.0 cm

19. Which of the following equalities is NOT correct?
    a. 1 dm = 10 m
    b. 1 g = 10 kg
    c. $1 cm^{3}$ = 1 ml
    d. 1000 ml = 1 L

20. What is the density of an object having a mass of 4.0 g and a volume of 8.0 ml?
    a. 0.32 g/ml
    b. 0.5 g/ml
    c. $2.0 g/cm^{3}$.
    d. 5.0 g/ml