

10. In chemistry, explain what is meant by the word "compound".

11. What are the two classes of mixtures?

12. Give an example of a heterogeneous mixture.

13. What kind of mixture is a solution of alcohol and water?

14. Which of the following terms are appropriate in describing an apple? pure substance; element; compound; mixture; homogeneous; heterogeneous

15. 1 milligram is equivalent to how many grams?

16. A typical aspirin tablet contains 5.00 grains of pure aspirin analgesic compound. The rest of the tablet is starch. How many aspirin tablets can be made from 50.0 g of pure aspirin? [Use: 1.00 g = 15.4 grains]

17. A patient weighs 146 pounds and is to receive a drug at a dosage of 45.0 mg per kg of body weight. The drug is supplied as a solution that contains 25.0 mg of drug per mL of solution. How many mL of the drug should the patient receive? [Use: 1 pound = 454 g]

18. If one atom of carbon-14 weighs 14.0 atomic mass units and one atomic mass unit is equal to 1.66×10^{-24} grams, what is the mass of 25.0 atoms of carbon-14 in grams?

19. A patient needs 0.300 g of a solid drug preparation per day. How many 10.0 mg tablets must be given to the patient per day?

20. When the value of an experimental quantity or measurement (e.g., the mass of a tablet) is reported, it should consist of two parts. What are they?

21. What do we call a basic quantity of mass, volume, time, etc.?

22. Express the number 0.000327730 to three significant figures using scientific notation.

23. Write the number 3,000 using scientific notation and the proper number of significant digits.

24. Write the number 0.9050 using scientific notation and the proper number of significant digits.

25. Provide the answer to the following problem using scientific notation and the proper number of significant digits: $(4.3169 \times 10^4) \div (2.02 \times 10^3) = ?$

26. What is meant by the word "mass"?

27. What instrument is used to measure the mass of an object?

28. What commonly used mass unit is approximately the same as the mass of one hydrogen atom?

29. Which physical property of an astronaut will change depending on whether he or she is on earth or in orbit?

30. What is the basic unit of volume in the metric system?

31. List four different forms of energy, other than kinetic energy or potential energy.

32. What Fahrenheit temperature corresponds to -168.7°C ?

33. What form of energy is usually absorbed or liberated during chemical reactions?

34. In the swinging of a pendulum, what two forms of energy are constantly being interconverted?

35. What kind of energy is stored as the result of position or composition?

36. What do we call the experimental quantity, which gives the number of particles of a substance (or their mass) contained per unit volume?

37. The density of an object is the ratio of its _____ to its _____.

38. If we assume the density of blood is 1.060 g/mL, what is the mass of 6.56 pints of blood in grams? [Use: 1 L = 2.113 pints]

39. A solid that had a mass of 189.6 g was found to have the following measurements: length = 9.80 cm; width = 46.6 mm; height = 0.111 m. What is its density in g/mL?

40. When a large object fell into a "full" swimming pool, it displaced 32.0 gallons of water. The density of the object is 1.65 g/mL. What is the object's weight in pounds? Remember that any fully immersed object displaces its own volume. [Use: 454 g = 1 pound; 1 L = 1.06 quarts]

41. What is the branch of science that involves the study of matter and the changes it undergoes?

- A. Biology
- B. Technology
- C. Physics
- D. Chemistry
- E. All of the above

42. What do we call anything that has mass and occupies space?

- A. Atoms
- B. Elements
- C. Matter
- D. Compounds
- E. None of the above

43. In which state does matter have an indefinite shape and definite volume?

- A. Solid
- B. Liquid
- C. Gas
- D. All of the above
- E. None of the above

44. In which state of matter are forces between particles least dominant?

- A. Solid
- B. Liquid
- C. Gas
- D. All of the above
- E. None of the above

45. Conversion of ice to liquid water or liquid water to steam is an example of what kind of change?

- A. Physical
- B. Chemical
- C. Molecular
- D. Analytical
- E. Both A and B

46. What type of change is represented by the decay of a fallen tree?

- A. Physical
- B. Chemical
- C. Molecular
- D. Analytical
- E. All of the above

47. The green color of the Statue of Liberty is due to a _____ change to the copper metal it is made of.

- A. Elemental
- B. Physical
- C. State
- D. Chemical
- E. None of the above

48. What type of property of matter is independent of the quantity of the substance?

- A. Chemical
- B. Physical
- C. Extensive
- D. Intensive
- E. Nuclear

49. What are two kinds of a pure substance?

- A. Elements and atoms
- B. Compounds and molecules
- C. Elements and compounds
- D. Chemical and physical
- E. Homogeneous and heterogeneous

50. What does the prefix "centi-" mean?

- A. 10^{-1}
- B. 10^{-2}
- C. 10^{-3}
- D. 10^2
- E. 10^3

51. How many centimeters correspond to 15.68 kilometers?

- A. 1.568×10^6 cm
- B. 1.568×10^5 cm
- C. 1.568×10^{-4} cm
- D. 1568 cm
- E. 1.569 cm

52. How many pounds are represented by 764.6 mg? [Use: 1 pound = 454 g]

- A. 347.1 lb
- B. 3.471×10^8 lb
- C. 1.684×10^{-3} lb
- D. 1.684 lb
- E. 0.7646 lb

53. If a person smokes 10.0 packs of cigarettes a week and each cigarette contains 5.00 mg of tar, how many years will she have to smoke to inhale 0.250 pounds of tar? [Use: 20 cigarettes = 1 pack, 1 pound = 454 g and 1 year = 52 weeks]

- A. 2.18 y
- B. 2.18×10^{-2} y
- C. 1.06 y
- D. 28.6 y
- E. 0.556 y

54. The cost of a drug is 125 francs per gram. What is the cost in dollars per ounce? [Use: \$1 = 6.25 francs and 1 ounce = 28.4 g]

- A. \$0.70/oz
- B. \$568/oz
- C. \$27.5/oz
- D. $\$2.22 \times 10^4$ /oz
- E. \$4.65/oz

55. How many significant figures are in the number 5.06305×10^4 ?

- A. 4
- B. 5
- C. 6
- D. 10
- E. None of the above

56. Provide the answer to the following problem using scientific notation and the proper number of significant digits: $(6.00 \times 10^{-2})(3.00 \times 10^{-4}) = ?$

- A. 1.8×10^{-5}
- B. 1.80×10^{-5}
- C. 1.80×10^{-4}
- D. 18.00×10^{-4}
- E. 2×10^{-5}

57. Provide the answer to the following problem using the proper number of significant digits: $0.004 + 26.59 + 3.2 = ?$

- A. 30 or 3×10^1
- B. 29
- C. 29.8
- D. 29.79
- E. None of the above

58. What is the branch of chemistry that is being applied in measuring the concentration of an air pollutant?

- A. Analytical chemistry
- B. Biochemistry
- C. Inorganic chemistry
- D. Organic chemistry
- E. Physical chemistry

59. What do we call a statement of observed behavior for which no exceptions have been found?

- A. Hypothesis
- B. Theory
- C. Law
- D. Model
- E. Result

60. Which state of matter has no definite shape or volume?

- A. Liquid
- B. Solid
- C. Gas
- D. Vapor
- E. Both C and D

61. Which of the following is NOT a physical property of matter?

- A. Odor
- B. Compressibility
- C. Flash point
- D. Melting point
- E. Color

62. What kind of change is accompanied by the release of heat?

- A. Molecular
- B. Endothermic
- C. Exothermic
- D. All physical changes
- E. All chemical changes

63. What kind of change always results in the formation of new materials?

- A. Molecular
- B. Exothermic
- C. Endothermic
- D. Physical
- E. Chemical

64. Which of the following is a chemical property?

- A. Flammability
- B. Color
- C. Hardness
- D. Temperature
- E. Melting point

65. Which one of the following is an example of an extensive property?

- A. Density
- B. Specific gravity
- C. Mass
- D. Hardness
- E. Boiling temperature

66. Which one of the following is an example of a pure substance?

- A. Ethyl alcohol
- B. Sugar water
- C. Salt and pepper
- D. Milk
- E. Sand

67. Air is a/an

- A. Element.
- B. Compound.
- C. Mixture.
- D. Molecule.
- E. Pure substance.

68. The speed of light is 186,000 miles per second. What is its speed in centimeters per second? [Use: 5280 feet = 1 mile; 12 inches = 1 foot; 2.54 cm = 1 inch]

- A. 3.01×10^{11} cm/s
- B. 3.15×10^{10} cm/s
- C. 6.06×10^{12} cm/s
- D. 3×10^{11} cm/s
- E. 2.99×10^{10} cm/s

69. 1 centimeter equals how many millimeters?

- A. 10^{-6}
- B. 10^{-3}
- C. 10
- D. 10^4
- E. 10^6

70. Round 0.052018 to three significant figures.

- A. 0.05
- B. 0.052
- C. 0.0520
- D. 0.05201
- E. 0.05202

71. Select the answer which best expresses the result of the following calculation: $1.86 + 246.4 - 79.9208 = ?$

- A. 168
- B. 168.3
- C. 168.34
- D. 168.339
- E. 168.3392

72. The appropriate number of significant figures to be used in expressing the result of 51.6×3.1416 is

- A. 1.
- B. 2.
- C. 3.
- D. 4.
- E. 5.

73. What Celsius temperature corresponds to -4.6°F ?

- A. -20°C
- B. -20.3°C
- C. -23.0°C
- D. -10.9°C
- E. -68.4°C

74. What Fahrenheit temperature corresponds to -40.0°C ?

- A. -8°F
- B. 16.8°F
- C. -36.9°F
- D. -40.0°F
- E. -1.94°F

75. What Kelvin temperature corresponds to 98.6°F?

- A. 310 K
- B. 310.0 K
- C. 31.00 K
- D. 132.0 K
- E. 199 K

76. Which temperature scale does not use a degree sign?

- A. Celsius
- B. Kelvin
- C. Centigrade
- D. Fahrenheit
- E. Absolute zero

77. If the density of carbon tetrachloride is 1.59 g/mL, what is the volume in L, of 4.21 kg of carbon tetrachloride?

- A. 0.149 L
- B. 0.378 L
- C. 2.65 L
- D. 6.69 L
- E. 6690 L

78. What is the specific gravity of an object that weighs 13.35 g and has a volume of 25.00 mL? The density of water under the same conditions is 0.980 g/mL.

- A. 1.335
- B. 0.545 g/mL
- C. 1.335
- D. 0.545
- E. 0.980

79. Organic chemistry is the study of those chemical processes that are found in living systems.

True False

80. Hypotheses are not acceptable in the scientific method.

True False

81. In the scientific method, a law carries more weight than a hypothesis.

True False

82. Each piece of data is the individual result of a single measurement.

True False

83. The presence of some error is a natural consequence of any measurement.

True False

84. The number 0.0680 has 3 significant figures.

True False

85. The terms mass and weight are identical.

True False

86. Mass is the force resulting from the pull of gravity upon an object.

True False

87. Equal masses of glass and steel at the same temperature will generally have different heat energies.

True False

88. Energy may be defined as the heat content of an object.

True False

89. One calorie is the amount of energy needed to raise the temperature of one gram of water one degree Celsius.

True False

90. Density and specific gravity can be expressed in the same units.

True False

c1 Key

1. What is meant by the term "scientific law"?

a summary of a large amount of scientific information

Denniston - Chapter 01 #1

2. What word means the application of scientific principles to meeting human needs?

technology

Denniston - Chapter 01 #2

3. What is a hypothesis?

an attempt to explain an observation in a common sense way

Denniston - Chapter 01 #3

4. When does a hypothesis attain the status of a theory?

when sufficient experiments have been performed to confirm that the hypothesis is correct

Denniston - Chapter 01 #4

5. What kind of change does not alter the composition or identity of the substance undergoing the change?

physical

Denniston - Chapter 01 #5

6. In one sentence, explain clearly what is meant by a "chemical change".

A chemical change results in different substance(s) from those initially present.

Denniston - Chapter 01 #6

7. What do we call the beginning and end materials in a chemical reaction?

reactants and products

Denniston - Chapter 01 #7

8. What word is used to describe properties of a substance that depend on the quantity of substance? Give two examples of such properties.

extensive; mass, volume and others

Denniston - Chapter 01 #8

9. What is meant in chemistry by the term "pure substance"?

The substance consists of only one component; it has a fixed composition throughout.

Denniston - Chapter 01 #9

10. In chemistry, explain what is meant by the word "compound".

a pure substance consisting of two or more elements chemically combined in a definite ratio

Denniston - Chapter 01 #10

11. What are the two classes of mixtures?

homogeneous and heterogeneous

Denniston - Chapter 01 #11

12. Give an example of a heterogeneous mixture.

concrete, salt and pepper, smoky air and others

Denniston - Chapter 01 #12

13. What kind of mixture is a solution of alcohol and water?

homogeneous

Denniston - Chapter 01 #13

14. Which of the following terms are appropriate in describing an apple? pure substance; element; compound; mixture; homogeneous; heterogeneous

mixture; heterogeneous

Denniston - Chapter 01 #14

15. 1 milligram is equivalent to how many grams?

1×10^{-3} g

Denniston - Chapter 01 #15

16. A typical aspirin tablet contains 5.00 grains of pure aspirin analgesic compound. The rest of the tablet is starch. How many aspirin tablets can be made from 50.0 g of pure aspirin? [Use: 1.00 g = 15.4 grains]

154 tablets

Denniston - Chapter 01 #16

17. A patient weighs 146 pounds and is to receive a drug at a dosage of 45.0 mg per kg of body weight. The drug is supplied as a solution that contains 25.0 mg of drug per mL of solution. How many mL of the drug should the patient receive? [Use: 1 pound = 454 g]

119 mL

Denniston - Chapter 01 #17

18. If one atom of carbon-14 weighs 14.0 atomic mass units and one atomic mass unit is equal to 1.66×10^{-24} grams, what is the mass of 25.0 atoms of carbon-14 in grams?

5.81×10^{-20} g

Denniston - Chapter 01 #18

19. A patient needs 0.300 g of a solid drug preparation per day. How many 10.0 mg tablets must be given to the patient per day?

30.0 tablets

Denniston - Chapter 01 #19

20. When the value of an experimental quantity or measurement (e.g., the mass of a tablet) is reported, it should consist of two parts. What are they?

number and units

Denniston - Chapter 01 #20

21. What do we call a basic quantity of mass, volume, time, etc.?

unit

Denniston - Chapter 01 #21

22. Express the number 0.000327730 to three significant figures using scientific notation.

$$3.28 \times 10^{-4}$$

Denniston - Chapter 01 #22

23. Write the number 3,000 using scientific notation and the proper number of significant digits.

$$3 \times 10^3$$

Denniston - Chapter 01 #23

24. Write the number 0.9050 using scientific notation and the proper number of significant digits.

$$9.050 \times 10^{-1}$$

Denniston - Chapter 01 #24

25. Provide the answer to the following problem using scientific notation and the proper number of significant digits: $(4.3169 \times 10^4) \div (2.02 \times 10^3) = ?$

$$2.14 \times 10^1$$

Denniston - Chapter 01 #25

26. What is meant by the word "mass"?

the quantity of matter in a sample

Denniston - Chapter 01 #26

27. What instrument is used to measure the mass of an object?

a balance

Denniston - Chapter 01 #27

28. What commonly used mass unit is approximately the same as the mass of one hydrogen atom?

atomic mass unit

Denniston - Chapter 01 #28

29. Which physical property of an astronaut will change depending on whether he or she is on earth or in orbit?

weight

Denniston - Chapter 01 #29

30. What is the basic unit of volume in the metric system?

liter

Denniston - Chapter 01 #30

31. List four different forms of energy, other than kinetic energy or potential energy.

any four of heat, light, electrical, mechanical, chemical

Denniston - Chapter 01 #31

32. What Fahrenheit temperature corresponds to -168.7°C ?

-271.7°F

Denniston - Chapter 01 #32

33. What form of energy is usually absorbed or liberated during chemical reactions?

heat

Denniston - Chapter 01 #33

34. In the swinging of a pendulum, what two forms of energy are constantly being interconverted?

kinetic energy and potential energy

Denniston - Chapter 01 #34

35. What kind of energy is stored as the result of position or composition?

potential energy

Denniston - Chapter 01 #35

36. What do we call the experimental quantity, which gives the number of particles of a substance (or their mass) contained per unit volume?

concentration

Denniston - Chapter 01 #36

37. The density of an object is the ratio of its _____ to its _____.

mass; volume

Denniston - Chapter 01 #37

38. If we assume the density of blood is 1.060 g/mL, what is the mass of 6.56 pints of blood in grams? [Use: 1 L = 2.113 pints]

3.29×10^3 g

Denniston - Chapter 01 #38

39. A solid that had a mass of 189.6 g was found to have the following measurements: length = 9.80 cm; width = 46.6 mm; height = 0.111 m. What is its density in g/mL?

0.374 g/mL

Denniston - Chapter 01 #39

40. When a large object fell into a "full" swimming pool, it displaced 32.0 gallons of water. The density of the object is 1.65 g/mL. What is the object's weight in pounds? Remember that any fully immersed object displaces its own volume. [Use: 454 g = 1 pound; 1 L = 1.06 quarts]

439 pounds

Denniston - Chapter 01 #40

41. What is the branch of science that involves the study of matter and the changes it undergoes?

- A. Biology
- B. Technology
- C. Physics
- D. Chemistry**
- E. All of the above

Denniston - Chapter 01 #41

42. What do we call anything that has mass and occupies space?

- A. Atoms
- B. Elements
- C. Matter**
- D. Compounds
- E. None of the above

Denniston - Chapter 01 #42

43. In which state does matter have an indefinite shape and definite volume?

- A. Solid
- B. Liquid**
- C. Gas
- D. All of the above
- E. None of the above

Denniston - Chapter 01 #43

44. In which state of matter are forces between particles least dominant?

- A. Solid
- B. Liquid
- C. Gas**
- D. All of the above
- E. None of the above

Denniston - Chapter 01 #44

45. Conversion of ice to liquid water or liquid water to steam is an example of what kind of change?

- A. Physical**
- B. Chemical
- C. Molecular
- D. Analytical
- E. Both A and B

Denniston - Chapter 01 #45

46. What type of change is represented by the decay of a fallen tree?

- A. Physical
- B. Chemical**
- C. Molecular
- D. Analytical
- E. All of the above

Denniston - Chapter 01 #46

47. The green color of the Statue of Liberty is due to a _____ change to the copper metal it is made of.

- A. Elemental
- B. Physical
- C. State
- D. Chemical**
- E. None of the above

Denniston - Chapter 01 #47

48. What type of property of matter is independent of the quantity of the substance?

- A. Chemical
- B. Physical
- C. Extensive
- D. Intensive**
- E. Nuclear

Denniston - Chapter 01 #48

49. What are two kinds of a pure substance?

- A. Elements and atoms
- B. Compounds and molecules
- C. Elements and compounds**
- D. Chemical and physical
- E. Homogeneous and heterogeneous

Denniston - Chapter 01 #49

50. What does the prefix "centi-" mean?

- A. 10^{-1}
- B. 10^{-2}**
- C. 10^{-3}
- D. 10^2
- E. 10^3

Denniston - Chapter 01 #50

51. How many centimeters correspond to 15.68 kilometers?

- A. 1.568×10^6 cm**
- B. 1.568×10^5 cm
- C. 1.568×10^{-4} cm
- D. 1568 cm
- E. 1.569 cm

Denniston - Chapter 01 #51

52. How many pounds are represented by 764.6 mg? [Use: 1 pound = 454 g]

- A. 347.1 lb
- B. 3.471×10^8 lb
- C.** 1.684×10^{-3} lb
- D. 1.684 lb
- E. 0.7646 lb

Denniston - Chapter 01 #52

53. If a person smokes 10.0 packs of cigarettes a week and each cigarette contains 5.00 mg of tar, how many years will she have to smoke to inhale 0.250 pounds of tar? [Use: 20 cigarettes = 1 pack, 1 pound = 454 g and 1 year = 52 weeks]

- A.** 2.18 y
- B. 2.18×10^{-2} y
- C. 1.06 y
- D. 28.6 y
- E. 0.556 y

Denniston - Chapter 01 #53

54. The cost of a drug is 125 francs per gram. What is the cost in dollars per ounce? [Use: \$1 = 6.25 francs and 1 ounce = 28.4 g]

- A. \$0.70/oz
- B.** \$568/oz
- C. \$27.5/oz
- D. $\$2.22 \times 10^4$ /oz
- E. \$4.65/oz

Denniston - Chapter 01 #54

55. How many significant figures are in the number 5.06305×10^4 ?

- A. 4
- B. 5
- C.** 6
- D. 10
- E. None of the above

Denniston - Chapter 01 #55

56. Provide the answer to the following problem using scientific notation and the proper number of significant digits: $(6.00 \times 10^{-2})(3.00 \times 10^{-4}) = ?$

- A. 1.8×10^{-5}
- B. 1.80×10^{-5}**
- C. 1.80×10^{-4}
- D. 18.00×10^{-4}
- E. 2×10^{-5}

Denniston - Chapter 01 #56

57. Provide the answer to the following problem using the proper number of significant digits: $0.004 + 26.59 + 3.2 = ?$

- A. 30 or 3×10^1
- B. 29
- C. 29.8**
- D. 29.79
- E. None of the above

Denniston - Chapter 01 #57

58. What is the branch of chemistry that is being applied in measuring the concentration of an air pollutant?

- A. Analytical chemistry**
- B. Biochemistry
- C. Inorganic chemistry
- D. Organic chemistry
- E. Physical chemistry

Denniston - Chapter 01 #58

59. What do we call a statement of observed behavior for which no exceptions have been found?

- A. Hypothesis
- B. Theory
- C. Law**
- D. Model
- E. Result

Denniston - Chapter 01 #59

60. Which state of matter has no definite shape or volume?

- A. Liquid
- B. Solid
- C. Gas
- D. Vapor
- E.** Both C and D

Denniston - Chapter 01 #60

61. Which of the following is NOT a physical property of matter?

- A. Odor
- B. Compressibility
- C.** Flash point
- D. Melting point
- E. Color

Denniston - Chapter 01 #61

62. What kind of change is accompanied by the release of heat?

- A. Molecular
- B. Endothermic
- C.** Exothermic
- D. All physical changes
- E. All chemical changes

Denniston - Chapter 01 #62

63. What kind of change always results in the formation of new materials?

- A. Molecular
- B. Exothermic
- C. Endothermic
- D. Physical
- E.** Chemical

Denniston - Chapter 01 #63

64. Which of the following is a chemical property?

- A. Flammability
- B. Color
- C. Hardness
- D. Temperature
- E. Melting point

Denniston - Chapter 01 #64

65. Which one of the following is an example of an extensive property?

- A. Density
- B. Specific gravity
- C. Mass
- D. Hardness
- E. Boiling temperature

Denniston - Chapter 01 #65

66. Which one of the following is an example of a pure substance?

- A. Ethyl alcohol
- B. Sugar water
- C. Salt and pepper
- D. Milk
- E. Sand

Denniston - Chapter 01 #66

67. Air is a/an

- A. Element.
- B. Compound.
- C. Mixture.
- D. Molecule.
- E. Pure substance.

Denniston - Chapter 01 #67

68. The speed of light is 186,000 miles per second. What is its speed in centimeters per second? [Use: 5280 feet = 1 mile; 12 inches = 1 foot; 2.54 cm = 1 inch]

- A. 3.01×10^{11} cm/s
- B. 3.15×10^{10} cm/s
- C. 6.06×10^{12} cm/s
- D. 3×10^{11} cm/s
- E.** 2.99×10^{10} cm/s

Denniston - Chapter 01 #68

69. 1 centimeter equals how many millimeters?

- A. 10^{-6}
- B. 10^{-3}
- C.** 10
- D. 10^4
- E. 10^6

Denniston - Chapter 01 #69

70. Round 0.052018 to three significant figures.

- A. 0.05
- B. 0.052
- C.** 0.0520
- D. 0.05201
- E. 0.05202

Denniston - Chapter 01 #70

71. Select the answer which best expresses the result of the following calculation: $1.86 + 246.4 - 79.9208 = ?$

- A. 168
- B.** 168.3
- C. 168.34
- D. 168.339
- E. 168.3392

Denniston - Chapter 01 #71

72. The appropriate number of significant figures to be used in expressing the result of 51.6×3.1416 is

- A. 1.
- B. 2.
- C. 3.**
- D. 4.
- E. 5.

Denniston - Chapter 01 #72

73. What Celsius temperature corresponds to -4.6°F ?

- A. -20°C
- B. -20.3°C**
- C. -23.0°C
- D. -10.9°C
- E. -68.4°C

Denniston - Chapter 01 #73

74. What Fahrenheit temperature corresponds to -40.0°C ?

- A. -8°F
- B. 16.8°F
- C. -36.9°F
- D. -40.0°F**
- E. -1.94°F

Denniston - Chapter 01 #74

75. What Kelvin temperature corresponds to 98.6°F ?

- A. 310 K
- B. 310.0 K**
- C. 31.00 K
- D. 132.0 K
- E. 199 K

Denniston - Chapter 01 #75

76. Which temperature scale does not use a degree sign?

- A. Celsius
- B. Kelvin**
- C. Centigrade
- D. Fahrenheit
- E. Absolute zero

Denniston - Chapter 01 #76

77. If the density of carbon tetrachloride is 1.59 g/mL, what is the volume in L, of 4.21 kg of carbon tetrachloride?

- A. 0.149 L
- B. 0.378 L
- C. 2.65 L**
- D. 6.69 L
- E. 6690 L

Denniston - Chapter 01 #77

78. What is the specific gravity of an object that weighs 13.35 g and has a volume of 25.00 mL? The density of water under the same conditions is 0.980 g/mL.

- A. 1.335
- B. 0.545 g/mL
- C. 1.335
- D. 0.545**
- E. 0.980

Denniston - Chapter 01 #78

79. Organic chemistry is the study of those chemical processes that are found in living systems.

FALSE

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80. Hypotheses are not acceptable in the scientific method.

FALSE

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81. In the scientific method, a law carries more weight than a hypothesis.

TRUE

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82. Each piece of data is the individual result of a single measurement.

TRUE

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83. The presence of some error is a natural consequence of any measurement.

TRUE

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84. The number 0.0680 has 3 significant figures.

TRUE

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85. The terms mass and weight are identical.

FALSE

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86. Mass is the force resulting from the pull of gravity upon an object.

FALSE

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87. Equal masses of glass and steel at the same temperature will generally have different heat energies.

TRUE

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88. Energy may be defined as the heat content of an object.

FALSE

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89. One calorie is the amount of energy needed to raise the temperature of one gram of water one degree Celsius.

TRUE

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90. Density and specific gravity can be expressed in the same units.

FALSE

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c1 Summary

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