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TEXTBOOK TESTBANKS

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ANSWERS ARE LOCATED IN THE SECOND PART OF THIS DOCUMENT

TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.

1) The ripening of fruit, once picked, is an example of physical change.

1) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

2) When applying the scientific method, it is important to avoid any form of hypothesis.

2) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Subtopic : Scientific Method
Topic : Study of Chemistry
Bloom's : 3. Apply
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

3) When applying the scientific method, a model or theory should be based on experimental data.

3) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Subtopic : Scientific Method
Topic : Study of Chemistry
Bloom's : 3. Apply
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

4) Matter is anything that has mass and occupies space.

4) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

5) The density of a substance is an intensive property.

5) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

6) The volume of a substance is an intensive property.

6) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

7) Boiling point and melting point are extensive properties.

7) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

8) The rusting of a piece of iron under environmental conditions is a physical change.

8) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

9) The number 6.0448, rounded to 3 decimal places, becomes 6.045.

9) _____

- ◎ true
- ◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

10) A scoop of vanilla ice cream is a pure substance.

10) _____

- ◎ true
- ◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

11) A particular temperature in degrees Celsius is larger than the temperature in kelvins.

11) _____

- ◎ true
- ◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

12) Zero kelvin 0 K < 0°F < 0°C

12) _____

◎ true
◎ false

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Difficulty : Medium
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

13) 77 K is colder than 4 K.

13) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

14) The juice from an orange is a mixture.

14) _____

◎ true
◎ false

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

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

15) What is a unifying principle that explains a body of experimental observations?

15) _____

A) law
B) hypothesis
C) theory
D) phenomena
E) prediction

Question Details
Bloom's : 2. Understand
Difficulty : Easy
Subtopic : Scientific Method
Topic : Study of Chemistry
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

16) Which of the following is a tentative explanation for a set of observations?

16) _____

A) law
B) hypothesis
C) theory
D) phenomena
E) prediction

Question Details
Bloom's : 2. Understand
Difficulty : Easy
Subtopic : Scientific Method
Topic : Study of Chemistry
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

17) What is the term used for findings that are summarized based on a pattern or trend?

17) _____

A) law
B) hypothesis
C) theory
D) phenomena
E) prediction

Question Details
Bloom's : 2. Understand
Difficulty : Easy
Subtopic : Scientific Method
Topic : Study of Chemistry
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

18) Which of the following activities is not a part of good science?

18) _____

A) proposing a theory
B) developing a hypothesis
C) making quantitative observations
D) designing experiments
E) indulging in speculation

Question Details
Bloom's : 2. Understand
Difficulty : Easy
Subtopic : Scientific Method
Topic : Study of Chemistry
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

19) Which of the following is a 'substance' according to the definition given in your textbook?

19) _____

A) air
B) tap water
C) sea water
D) water
E) toothpaste

Question Details
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

20) Which of the following cannot be separated into simpler substances by chemical means?

20) _____

A) element
B) emulsion
C) compound
D) homogeneous mixture
E) heterogeneous mixture

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Difficulty : Medium
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

21) If a liquid contains 60% sugar and 40% water throughout its composition, then what is it called?

21) _____

A) solute
B) compound
C) homogeneous mixture
D) heterogeneous mixture
E) solvent

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Properties of Matter
Difficulty : Medium
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

22) Which of the following does not have a uniform composition throughout?

22) _____

A) element
B) compound
C) homogeneous mixture
D) heterogeneous mixture
E) solvent

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

23) Which of the following is not an SI base unit?

23) _____

A) meter
B) ampere
C) second
D) gram
E) kelvin

Question Details
Bloom's : 2. Understand
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Difficulty : Medium
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

24) The SI base unit of mass is

24) _____

A) mg
B) g
C) kg
D) metric ton
E) lb

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Difficulty : Medium
Bloom's : 1. Remember
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

25) The SI prefix*mega-* (M) means

25) _____

A) 10^{-6}
B) 10^{-3}
C) 10^{3}
D) 10^{6}
E) 10^{9}

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 1. Remember
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

26) The SI prefixes*milli-* and*mega-* represent, respectively:

26) _____

A) 10^{6} and 10^{-6}
B) 10^{-3} and 10^{6}
C) 10^{3} and 10^{-6}
D) 10^{-3} and 10^{9}
E) 10^{-6} and 10^{-3}

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Difficulty : Medium
Bloom's : 1. Remember
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

27) How many micrograms are in 65.3 kg?

27) _____

A) 0.653 μg
B) 6.53×10^{7} μg
C) 6.53×10^{4} μg
D) 6.53×10^{-8} μg
E) 6.53×10^{10} μg

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

28) A dose of medication was prescribed to be 35 microliters. Which of the following expresses that volume in centiliters?

28) _____

A) 3.5×10^{5} cL
B) 3.5×10^{4} cL
C) 3.5 cL
D) 3.5×10^{-4} cL
E) 3.5×10^{-3} cL

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

29) How many milliliters is 0.0055 L?

29) _____

A) 0.55 mL
B) 5.5 mL
C) 0.5 mL
D) 0.0000055 mL
E) 182 mL

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

30) How many hertz is 600.11 MHz?

30) _____

A) 6.0011×10^{-4} Hz
B) 60.011 Hz
C) 6.0011×10^{6} Hz
D) 6.0011×10^{-2} Hz
E) 6.0011×10^{8} Hz

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

31) The distance between carbon atoms in ethylene is 134 picometers. Which of the following expresses that distance in meters?

31) _____

A) 1.34×10^{-13} m
B) 1.34×10^{-12} m
C) 1.34×10^{-10} m
D) 1.34×10^{-7} m
E) 1.34×10^{-6} m

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

32) Which of these quantities represents the largest mass?

32) _____

A) 2.0×10^2 mg
B) 0.0010 kg
C) 1.0×10^5 mg
D) 2.0×10^2 cg
E) 10.0 dg

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

33) The mass of a sample is 550 milligrams. Which of the following expresses that mass in kilograms?

33) _____

A) 5.5×10^{8} kg
B) 5.5×10^{5} kg
C) 5.5×10^{-4} kg
D) 5.5×10^{-6} kg
E) 5.5×10^{-1} kg

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

34) The average distance between the Earth and the Moon is 240,000 miles. Express this distance in kilometers. (1 mi = 1609 m)

34) _____

A) 6.1×10^{5} km
B) 5.3×10^{5} km
C) 3.9×10^{5} km
D) 1.5×10^{5} km
E) 9.4×10^{4} km

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

35) How many inches are in 382.5 cm? (1 in = 2.54 cm)

35) _____

A) 150.6 in
B) 6.641×10^{-3} in
C) 151 in
D) 971.6 in
E) 972 in

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

36) How many cubic inches are in 1.00 liter? (1 in = 2.54 cm)

36) _____

A) 61.0 in^3
B) 155 in^3
C) 394 in^3
D) 1.64×10^4 in^3
E) None of these choices is correct.

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

37) Convert 500. milliliters to quarts. (1 L = 1.0567 qt)

37) _____

A) 1.88 qt
B) 0.472 qt
C) 0.528 qt
D) 4.72×10^5 qt
E) 5.28×10^5 qt

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

38) Given that 1 inch = 2.54 cm, 1.00 cm^3 is equal to

38) _____

A) 16.4 in^3
B) 6.45 in^3
C) 0.394 in^3
D) 0.155 in^3
E) 0.0610 in^3

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

39) A large pizza has a diameter of 15 inches. Express this diameter in centimeters. (1 in = 2.54 cm)

39) _____

A) 38 cm
B) 24 cm
C) 18 cm
D) 9.3 cm
E) 5.9 cm

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

40) The average distance between the Earth and the Moon is 240,000 miles. Express this distance in meters. (1 mi = 1609 m)

40) _____

A) 6.1×10^5 m
B) 5.3×10^5 m
C) 3.9×10^8 m
D) 1.5×10^5 m
E) 9.4×10^4 m

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

41) What is the volume in milliliters of a 32.0 fl oz can of juice? (1 fl oz = 29.6 mL)

41) _____

A) 1.08 mL
B) 947 mL
C) 0.925 mL
D) 0.95 mL
E) 1.1 mL

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

42) How many mm^3 are in 16.7 cm^3?

42) _____

A) 1.67×10^{-5} mm^3
B) 1.67×10^{-8} mm^3
C) 1.67×10^{7} mm^3
D) 1.67×10^{4} mm^3
E) 1.67×10^{-4} mm^3

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

43) If a patient in the hospital is running a temperature of 39.5°C, what is this in degrees Fahrenheit?

43) _____

A) 99°F
B) 101.3°F
C) 102.4°F
D) 103.1°F
E) 104°F

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

44) If normal body temperature is 98.6°F then what is this in degrees Celsius?

44) _____

A) 34°C
B) 35.5°C
C) 36.4°C
D) 37.0°C
E) 38.7°C

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

45) Express 122.0°F in °C.

45) _____

A) 50.0°C
B) 64.4°C
C) 67.8°C
D) 162.0°C
E) 219.6°C

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

46) The boiling point for liquid helium is 4.0 K. What is the temperature in degrees Fahrenheit?

46) _____

A) –452.5°F
B) –498.9°F
C) –237.2°F
D) 131.8°F
E) 530.9°F

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

47) If the temperature is 38.0°F then what is the temperature in kelvins?

47) _____

A) 3.33 K
B) 100.4 K
C) 276.5 K
D) 311.15 K
E) 235.15 K

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

48) Dry ice (carbon dioxide) changes from a solid to a gas at −78.5°C. What is this temperature in °F?

48) _____

A) −173°F
B) −12.6°F
C) −109°F
D) −75.6°F
E) None of them is within 2°F of the right answer.

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

49) The boiling point for liquid nitrogen is 77 K. What is the temperature in degrees Fahrenheit?

49) _____

A) −127°F
B) −289°F
C) −321°F
D) 177°F
E) 662°F

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

50) Acetone, which is used as a solvent and as a reactant in the manufacture of Plexiglas®, boils at 56.1°C. What is the boiling point in degrees Fahrenheit?

50) _____

A) 159°F
B) 133°F
C) 101°F
D) 69.0°F
E) 43.4°F

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

51) Isopropyl alcohol, commonly known as rubbing alcohol, boils at 82.4°C. What is the boiling point in kelvins?

51) _____

A) 387.6 K
B) 355.6 K
C) 323.6 K
D) 190.8 K
E) −190.8 K

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

52) Acetic acid boils at 244.2°F. What is its boiling point in degrees Celsius?

52) _____

A) 382.0°C
B) 167.7°C
C) 153.4°C
D) 117.9°C
E) 103.7°C

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

53) What is the volume of a container that contains 14.3 g of a substance having a density of 0.988 g/cm^3?

53) _____

A) 14.1 cm^3
B) 0.0691 cm^3
C) 14.5 cm^3
D) 141 cm^3
E) 691 cm^3

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

54) If you have a graduated cylinder containing 15.5 mL and this volume changes to 95.2 mL after a metal with a mass of 7.95 g is dropped into the graduated cylinder, then what is the density of this metal?

54) _____

A) 0.0835 g/mL
B) 0.513 g/mL
C) 0.0718 g/mL
D) 10.0 g/mL
E) 9.97×10^{-2} g/mL

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

55) The density of mercury, the only metal to exist as a liquid at room temperature, is 13.6 g/cm^3. What is that density in pounds per cubic inch? (1 in = 2.54 cm; 1 lb = 454 g)

55) _____

A) 849 lb/in^3
B) 491 lb/in^3
C) 376 lb/in^3
D) 0.491 lb/in^3
E) 1.83×10^{-3} lb/in^3

Question Details
Topic : Study of Chemistry
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Subtopic : Dimensional Analysis
Difficulty : Hard
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Accessibility : Keyboard Navigation

56) Radio waves travel at the speed of light, which is 3.00×10^8 m/s. How many minutes does it take for a radio message to reach Earth from Saturn if Saturn is 7.9×10^8 km from Earth?

56) _____

A) 4.4×10^{-2} min
B) 1.6×10^5 min
C) 4.0×10^{15} min
D) 44 min
E) 2.6 min

Question Details
Topic : Study of Chemistry
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Subtopic : Measurement (SI Units)
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Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

57) The speed needed to escape the pull of Earth's gravity is 11.3 km/s. What is this speed in mi/h? (1 mile = 1609 m)

57) _____

A) 65,500 mi/h
B) 25,300 mi/h
C) 18,200 mi/h
D) 1,090 mi/h
E) 5.02×10^{-3} mi/h

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

58) Radio waves travel at the speed of light, which is 3.00×10^{8} m/s. How many kilometers will radio messages to outer space travel in exactly one year? (365.24 days = 1 y)

58) _____

A) 9.46×10^{15} km
B) 7.30×10^{8} km
C) 7.10×10^{10} km
D) 9.47×10^{12} km
E) 3.33×10^{-3} km

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

59) The diameter of Earth is 12.7 Mm. Express this diameter in centimeters.

59) _____

A) 1.27×10^5 cm
B) 1.27×10^6 cm
C) 1.27×10^7 cm
D) 1.27×10^8 cm
E) 1.27×10^9 cm

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

60) Some molecules move with speeds approaching the "escape velocity" from Earth, which is 7.0 miles per second. What is this speed in cm/h? (1 mi = 1609 m)

60) _____

A) 313 cm/h
B) 4.1×10^5 cm/h
C) 4.1×10^9 cm/h
D) 1.1×10^6 cm/h
E) 1.6×10^5 cm/h

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

61) The city of Los Angeles is now approximately 2400 miles south of Anchorage, Alaska. It is moving slowly northward as the San Andreas fault slides along. If Los Angeles is to arrive near Anchorage in 76 million years, at what average rate will it have to move in mm per month? (1 mi = 1609 m)

61) _____

A) 2.0×10^{-10} mm/mo.
B) 6.6×10^{-6} mm/mo.
C) 4.2 mm/mo.
D) 9.5 mm/mo.
E) 51 mm/mo.

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

62) Which of the following speeds is the greatest? (1 mi = 1609 m)

62) _____

A) 40 mi/h
B) 2.0×10^5 mm/min
C) 40 km/h
D) 0.74 km/min
E) 400 m/min

Question Details
Topic : Study of Chemistry
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Bloom's : 5. Evaluate
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

63) Iron has a density of 7.87 g/cm^3. What mass of iron would be required to cover a football playing surface of 120 yds × 60. yds to a depth of 1.0 mm? (1 inch = 2.54 cm)

63) _____

A) 76 kg
B) 47 Mg
C) 7.6×10^5 g
D) 4.7×10^8 g
E) 1.9×10^7 g

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

64) The recommended daily allowance (RDA) of calcium is 1.2 g. Calcium carbonate contains 12.0% calcium by mass. How many grams of calcium carbonate are needed to provide the RDA of calcium?

64) _____

A) 0.10 g
B) 0.14 g
C) 1.2 g
D) 10. g
E) 14. g

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

65) One of the common intravenous fluids, called physiological saline, is a homogeneous mixture of NaCl in water. In this mixture, 0.89% of the mass is contributed by the NaCl. What mass of NaCl is found in 450. mL of physiological saline? ((Density of physiological saline = 1.005 g/cm^3)

65) _____

A) 2.0 g
B) 4.0 g
C) 5.1 g
D) 508 g
E) 400 g

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

66) An empty flask's mass is 17.4916 g, and its mass is 43.9616 g when filled with water at 20.0°C (density = 0.9982 g/mL). The density of "heavy water" at 20.0°C is 1.1053 g/mL. What is the mass of the flask when filled with heavy water at 20.0°C?

66) _____

A) 29.2573 g
B) 46.8016 g
C) 46.7489 g
D) 29.3100 g
E) 43.9140 g

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

67) A flask has a mass of 78.23 g when empty and 593.63 g when filled with water. When the same flask is filled with concentrated sulfuric acid, H_2SO_4, its mass is 1026.57 g. What is the density of concentrated sulfuric acid? (Assume water has a density of 1.00 g/cm^3 at the temperature of the measurement.)

67) _____

A) 1.992 g/cm^3
B) 1.840 g/cm^3
C) 1.729 g/cm^3
D) 1.598 g/cm^3
E) 0.543 g/cm^3

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

68) Talc is a mineral with low conductivity for heat and electricity which is not attacked by acid. It is used in talcum powder and face powder. Suppose a sample of talc weighs 13.65 g with a density of 1.75 g/cm^3 in mineral oil. If this same sample of talc in air weighs 35.97 g, assuming no volume change, what is the density of the talc sample in air?

68) _____

A) 4.61 g/cm^3
B) 2.82 g/cm^3
C) 2.63 g/cm^3
D) 2.44 g/cm^3
E) 1.61 g/cm^3

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Difficulty : Hard
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

69) Which of the following is an example of an*observation*?

69) _____

A) Gases expand as their temperature increases because the gas molecules are moving more rapidly.

B) Paraffin wax begins to melt at 57°C.

C) Three samples of wax are heated to 75°C.

D) The force acting on an object is equal to its mass times its acceleration.

E) Will all waxes melt at the same temperature?

Question Details
Bloom's : 2. Understand
Difficulty : Easy
Subtopic : Scientific Method
Topic : Study of Chemistry
Subtopic : Properties of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

70) Which of the following is a*chemical* change?

70) _____

A) boiling water

B) melting wax

C) broiling a steak on a grill

D) condensing water vapor into rainfall

E) carving a piece of wood

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

71) Which of these is an example of a*physical* property?

71) _____

A) corrosiveness of sulfuric acid
B) toxicity of cyanide
C) flammability of gasoline
D) neutralization of stomach acid with an antacid
E) lead becomes a liquid when heated to 601°C.

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

72) Which one of these represents a*physical* change?

72) _____

A) Water, when heated, forms steam.
B) Bleach turns hair yellow.
C) Sugar, when heated, becomes brown.
D) Milk turns sour.
E) Apples, when exposed to air, turn brown.

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

73) Which one of these represents a*chemical* change?

73) _____

A) boiling water to form steam
B) turning hair yellow with bleach
C) melting butter
D) mixing powdered charcoal and oxygen at room temperature
E) cutting a bar of sodium metal into pieces with a knife

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

74) Which of the following is an*extensive* property of oxygen?

74) _____

A) boiling point
B) temperature
C) average kinetic energy of molecules
D) density
E) mass

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

75) When the value of something does not depend on the amount of the matter then what is this called?

75) _____

A) empirical property
B) intensive property
C) inclusive property
D) extensive property
E) exclusive property

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Subtopic : Properties of Matter
Bloom's : 3. Apply
Subtopic : Classification and States of Matter
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

76) Which of the following is an*extensive* property?

76) _____

A) density
B) temperature
C) mass
D) specific Heat
E) pressure

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

77) The number 1.050×10^9 has how many significant figures?

77) _____

A) 2
B) 3
C) 4
D) 9
E) 13

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

78) After carrying out the operation $(13.7 + 0.027) \div 8.221$, how many significant figures are appropriate to show in the result?

78) _____

A) 1
B) 2
C) 3
D) 4
E) 5

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

79) How many significant figures are in 0.006570?

79) _____

A) 3
B) 4
C) 5
D) 6
E) 7

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

80) The result of (3.8621 × 1.5630) − 5.98 is properly written as

80) _____

A) 0.06
B) 0.056
C) 0.0565
D) 0.05646
E) 0.056462

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

81) Select the answer with the correct number of decimal places for the following sum:
13.914 cm + 243.1 cm + 12.00460 cm =

81) _____

A) 269.01860 cm
B) 269.0186 cm
C) 269.019 cm
D) 269.02 cm
E) 269.0 cm

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

82) How many significant figures does the sum 8.5201 + 1.93 contain?

82) _____

A) 1
B) 2
C) 3
D) 4
E) 5

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

83) Select the answer that expresses the result of this calculation with the correct number of significant figures.

$$\frac{13.602 \times 1.90 \times 3.06}{4.2 \times 1.4097}$$

83) _____

A) 13.3568
B) 13.357
C) 13.36
D) 13.4
E) 13

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

84) Which is correct if 0.01234 is rewritten in scientific notation?

84) _____

A) 1.234×10^{-3}
B) 12.3×10^{4}
C) 1×10^{-1}
D) 1.234×10^{2}
E) 1.234×10^{-2}

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

85) You prepare 1000. mL of tea and transfer it to a 1.00-quart pitcher for storage. Which of the following statements is true? (1 L = 1.0567 qt)

85) _____

A) The pitcher will be filled to 100% of its capacity with no tea spilled.
B) The pitcher will be filled to about 95% of its capacity.
C) The pitcher will be filled to about 50% of its capacity.
D) The pitcher will be completely filled and a small amount of tea will overflow.
E) The pitcher will be completely filled and most of the tea will overflow.

Question Details
Topic : Study of Chemistry
Difficulty : Medium
Subtopic : Dimensional Analysis
Bloom's : 5. Evaluate
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

86) Which is correct if 52.068881 is rewritten in scientific notation and rounded to three significant figures?

86) _____

A) 5.21×10^{-1}
B) 5.20×10^{-1}
C) 5.21×10^{1}
D) 5.20×10^{1}
E) 5.21×10^{2}

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

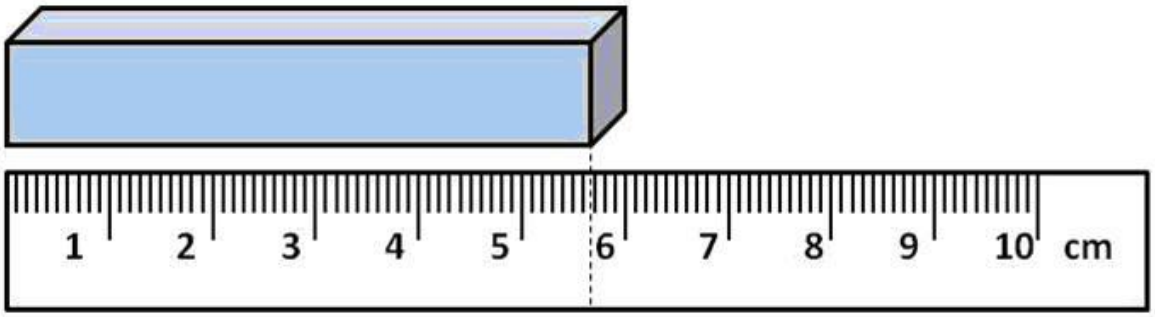
87) Which is correct if 15,390,000 is rounded to two significant figures?

87) _____

A) 15
B) 1.5×10^{-7}
C) 1.5×10^{8}
D) 15,400,000
E) 15,000,000

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

88) What is the length of the box, using the proper number of significant figures and units?



88) _____

A) 5.5 cm
B) 5 cm
C) 6 cm
D) 5.67 cm
E) 5.6 cm

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

89) The dark meat of a 20-pound turkey requires an internal temperature of 180°F to be fully cooked. What minimum temperature reading should be displayed on a food thermometer that only measures in degrees Celsius?

89) _____

A) 82°C
B) 354°C
C) 261°C
D) −192°C
E) −310°C

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 3. Apply
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

90) 50.0 grams of acetic acid are required for an experiment. What volume, in milliliters, of a 1.105 g/cm^3 acetic acid solution must be measured for the experiment?

90) _____

A) 0.0452 mL
B) 45.2 mL
C) 55.3 mL
D) 0.452 mL
E) 4.52 mL

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

91) A geology student found an irregularly shaped rock, with a mass of 28.63 grams, and placed it into a graduated cylinder containing 13.31 mL of water. If the water level increased to 19.73 mL after the rock was placed in the cylinder, what is the density of the rock, in g/mL?

91) _____

A) 4.46 g/mL
B) 4460 g/mL
C) 2.20 g/mL
D) 0.455 g/mL
E) 44.6 g/mL

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

92) An average Mastiff puppy weighs 2.72 kilograms. How many pounds is an average Mastiff puppy? (1lb = 453.6 g)

92) _____

A) 1.24 lb
B) 10.0 lb
C) 59.8 lb
D) 6.00 lb
E) 72.0 lb

Question Details
Difficulty : Easy
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

93) If the density of corn syrup is 1.380 g/mL and a sample of corn syrup has a mass of 32 grams, what is the volume of corn syrup, in liters?

93) _____

A) 43 L
B) 23 L
C) 0.043 L
D) 0.023 L
E) 2.3 L

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

94) A smart phone has dimensions of 4.9 inches (height), 2.3 inches (width) and 8.0 millimeters (depth). What is the volume of the smart phone in cubic centimeters? (1 in = 2.54 cm)

94) _____

A) 58 cm^3
B) 1.7 × 105 cm^3
C) 90 cm^3
D) 3.4 cm^3
E) 34 cm^3

Question Details
Topic : Study of Chemistry
Bloom's : 4. Analyze
Subtopic : Measurement (SI Units)
Difficulty : Medium
Subtopic : Scientific Notation and Significant Figures
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

95) There are 58 counties in California and about 660,000 people in each county. How many million people live in California?

95) _____

A) 383 million people
B) 38 million people
C) 40 million people
D) 58 million people
E) 11 million people

Question Details
Topic : Study of Chemistry
Bloom's : 3. Apply
Difficulty : Medium
Subtopic : Dimensional Analysis
Chapter : 01 Chemistry: The Science of Change
Accessibility : Keyboard Navigation

Chemistry Atoms First 4th Edition by Burdge CH01

Answer Key

Test name: CH01

1) FALSE
2) FALSE
3) TRUE
4) TRUE
5) TRUE
6) FALSE
7) FALSE
8) FALSE
9) TRUE
10) FALSE
11) FALSE
12) TRUE
13) FALSE
14) TRUE
15) C
16) B
17) A
18) E
19) D
20) A
21) C
22) D
23) D
24) C
25) D
26) B

27) E
28) E
29) B
30) E
31) C
32) C
33) C
34) C
35) A
36) A
37) C
38) E
39) A
40) C
41) B
42) D
43) D
44) D
45) A
46) A
47) C
48) C
49) C
50) B
51) B
52) D
53) C
54) E
55) D
56) D

57) B
58) D
59) E
60) C
61) C
62) A
63) B
64) D
65) B
66) B
67) B
68) A
69) B
70) C
71) E
72) A
73) B
74) E
75) B
76) C
77) C
78) C
79) B
80) A
81) E
82) D
83) E
84) E
85) D
86) C

87) E
88) D
89) A
90) B
91) A
92) D
93) D
94) A
95) B