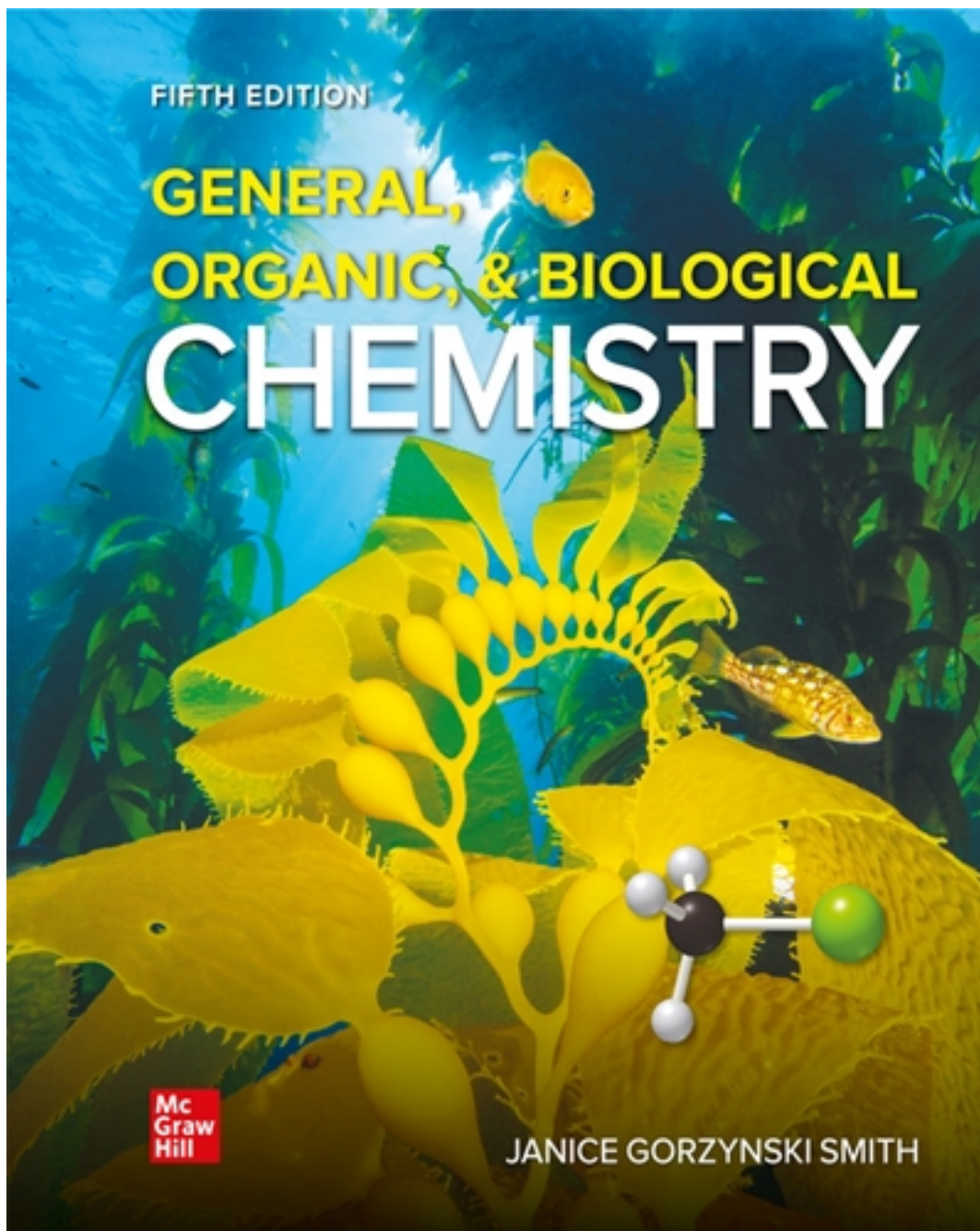


# Test Bank for General Organic and Biological Chemistry 5th Edition by Smith

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# Test Bank

# General Organic and Biological Chemistry 5th Edition by Smith CH01

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) PVC plastic, which is used in pipes, is an example of a synthetic material.

1) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Properties of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

2) Nitrogen gas ( $N_2$ ) would properly be classified as a compound.

2) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

3) Changes in state such as melting and boiling are physical changes.

3) \_\_\_\_\_

- ☐ true  
☐ false

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

4) A compound cannot be broken down into simpler substances.

4) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

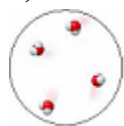
Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

5) The water molecules in this image are best described as being in the liquid state.



5) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

# General Organic and Biological Chemistry 5th Edition by Smith CH01

6) The base unit for mass in the metric system is kilograms (kg).

6) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

7) The base unit for volume in the metric system is liter (L).

7) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

8) An inexact number results from a measurement or observation and contains some uncertainty.

8) \_\_\_\_\_

- ☐ true
- ☐ false

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

9) A zero counts as a significant figure when it occurs at the end of a number that contains a decimal point.

9) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

10) 8 mL is larger than 8 dL.

10) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Difficulty : Medium

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

11) Specific gravity is a quantity that compares the density of a substance with the density of water.

11) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

12) The specific gravity of a substance has units of g/mL.

12) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Bloom's : 1. Remember

Topic : Study of Chemistry

Difficulty : Medium

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

13) When the liquid carbon tetrachloride (density = 1.59 g/mL) is added to water, the top layer will be the water layer.

13) \_\_\_\_\_

- ☐ true
- ☐ false

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Bloom's : 3. Apply

Difficulty : Medium

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**14)** When a piece of magnesium (density = 1.738 g/mL) is placed in a container of liquid carbon tetrachloride (density = 1.59 g/mL), the piece of magnesium will float on top of the carbon tetrachloride.

14) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Bloom's : 3. Apply

Difficulty : Medium

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**15)** In reading a number with a decimal point from left to right, all digits starting with the first nonzero number are significant figures.

15) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

# General Organic and Biological Chemistry 5th Edition by Smith CH01

16) The number 900,027,300 has four significant figures.

16) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

17) The number 900,027,300 has nine significant figures.

17) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

18) The two conversion factors for the equality 1 in = 2.54 cm are properly shown below.

$$\frac{1 \text{ in}}{2.54 \text{ cm}} \quad \text{and} \quad \frac{2.54 \text{ in}}{1 \text{ cm}}$$

18) \_\_\_\_\_

- ☐ true  
☐ false



# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

19) Dissolving sugar in water involves a chemical change.

19) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 3. Apply

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

20) Burning gasoline is a chemical change.

20) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 3. Apply

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

21) One-thousand (1,000) ms is the same length of time as one (1)  $\mu$ s.

21) \_\_\_\_\_

- ☐ true  
☐ false

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 4. Analyze

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

22) Assuming the numbers are measured values, when multiplying 762.85 by 15, the answer should be reported with two significant figures.

22) \_\_\_\_\_

- ☐ true  
☐ false

### Question Details

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

23) When subtracting 15 from 762.85 the answer should be reported with two significant figures.

23) \_\_\_\_\_

- ☐ true  
☐ false

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

24) In scientific notation, a number is written as  $y \times 10^{-x}$ , where  $x$  can be any positive or negative number or fraction.

24) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

25) If the density of a substance is greater than 1 g/mL, the mass of a sample of this substance will be greater than the volume of the sample.

25) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 4. Analyze

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

26) Dividing a number by  $10^5$  is the same as multiplying a number by  $10^{-5}$ .

26) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

27) The measurement 10.3 cm has more significant figures than the measurement 10.3 m.

27) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

28) The density of olive oil is greater at 200 °C than at 25 °C.

28) \_\_\_\_\_

- ☐ true
- ☐ false

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Difficulty : Medium

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

29) One Kelvin is the same size as one degree Celsius.

29) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

30) The temperature 60 °C is higher than 60 °F.

30) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

31) The temperature -60 °C is higher than -60 °F.

# General Organic and Biological Chemistry 5th Edition by Smith CH01

31) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

32) The temperature 60 °C is higher than 60 K.

32) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

33) Elements and compounds are both classified as pure substances.

33) \_\_\_\_\_

- ☐ true
- ☐ false

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

34) The terms used in conversion factors must always be exact numbers.

34) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

35) The number 87,927,000 is larger than the number  $9.7 \times 10^6$ .

35) \_\_\_\_\_

- ☐ true  
☐ false

## Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Bloom's : 4. Analyze

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

36) The number 0.0007270 is larger than the number  $5.7 \times 10^{-3}$ .

36) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Bloom's : 4. Analyze

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

37) A mixture can be separated into its components by physical changes.

37) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

38) For a number written in scientific notation, a negative exponent indicates the value of the number is less than 1.

38) \_\_\_\_\_

- ☐ true
- ☐ false



# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

39) The meaning of the metric prefix *milli-* is 1000.

39) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Difficulty : Medium

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

40) All of the following are examples of physical properties: color, odor, boiling point, solubility.

40) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

41) A liquid has a definite volume and takes the shape of the container that it is in.

41) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

42) In a measured number, the significant digits are all of the digits shown except the one estimated digit.

42) \_\_\_\_\_

- ☐ true
- ☐ false

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Accessibility : Keyboard Navigation

Subtopic : Significant Figures

Gradable : automatic

43) One milliliter is the same volume as one cubic centimeter.

43) \_\_\_\_\_

- ☐ true
- ☐ false

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**44)** When setting up a dimensional analysis problem, in order for a unit to cancel, the same unit must appear in the numerator of one term and in the denominator of another term.

44) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**45)** The temperature of two objects are measured in the laboratory. The temperature of Object A is 40°C, and the temperature of Object B is 200K. It can be concluded that the temperature of Object B is higher than that of Object A.

45) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

# General Organic and Biological Chemistry 5th Edition by Smith CH01

46) A beaker filled with 52 g of hydrochloric acid was carelessly spilled on the laboratory floor. Prior to the spill, the density of the acid was determined to be 1.2 g/mL. Is the student's claim that the beaker contained 43 mL of acid true or false?

46) \_\_\_\_\_

- ☐ true
- ☐ false

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Subtopic : Density Calculations

Gradable : automatic

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

47) Which is NOT an example of a pure substance?

47) \_\_\_\_\_

- A) sugar
- B) air
- C) aluminum foil
- D) water
- E) a block of dry ice (solid CO<sub>2</sub>)

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

48) Which is an example of a physical change?

48) \_\_\_\_\_

- A) the rusting of an iron nail
- B) the burning of propane in a gas grill
- C) baking cookies
- D) polishing tarnished silver
- E) melting of an ice cube in a glass of soda

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

49) Which of the following examples represents a chemical change?

49) \_\_\_\_\_

- A) the tearing of a piece of paper
- B) the melting of an ice cube
- C) the burning of a candle
- D) the dissolving of table salt (NaCl) in water
- E) the evaporation of water from a puddle

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**50)** An unknown solid is taken to the laboratory for analysis. Which of the following examples represents a chemical property of the unknown solid substance?

50) \_\_\_\_\_

- A) The density of the solid is 1.66 g/mL.
- B) The melting point of the solid is 156°C.
- C) The solid is soluble in water and acetone.
- D) The substance is odorless in solid form.
- E) The substance produces a gas when combined with  $\text{NaHCO}_3$  in water.

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**51)** An unknown liquid is taken to the laboratory for analysis. Which of the following examples represents a physical property of the unknown liquid substance?

51) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) The liquid is hygroscopic and readily absorbs moisture from the air.
- B) The liquid produces an exothermic reaction with water.
- C) The liquid is highly corrosive.
- D) The liquid is viscous with a slight yellow color.
- E) The liquid is a powerful oxidizing agent.

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

52) In which state of matter are the particles close together and highly organized?

52) \_\_\_\_\_

- A) solid
- B) liquid
- C) gas
- D) all of the choices are correct.
- E) none of the choices are correct.

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

53) Which description best characterizes the behavior of the particles of a liquid?

53) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) The particles are close together and highly organized.
- B) The particles are close together but disorganized.
- C) The particles are far apart and highly organized.
- D) The particles are far apart and very disorganized.
- E) None of the choices are correct.

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

54) Which state of matter does not have a definite shape or volume?

54) \_\_\_\_\_

- A) solid
- B) liquid
- C) gas
- D) More than one of the choices are correct.
- E) None of the choices are correct.

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

55) Which choice describes the behavior of a solid?

55) \_\_\_\_\_



## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) A solid has a definite volume, and maintains its shape in any container.
- B) A solid has a definite volume, but takes on the shape of its container.
- C) A solid has no definite volume or shape.
- D) A solid has no definite volume and takes the shape of its container.
- E) None of the choices are correct.

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

56) Which measurement has the fewest number of significant figures?

56) \_\_\_\_\_

- A) 12.80 m
- B) 0.1280 m
- C) 0.001280 m
- D) 1280 m
- E) All of the measurements have the same number of significant figures.

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

57) Which quantity is an exact number?

57) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 3 cars
- B) 1,000 m
- C) 2 L
- D) 453.6 g
- E) 1 qt

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

58) Which quantity is an inexact number?

58) \_\_\_\_\_

- A) 1 dozen eggs
- B) 120 meters
- C) 15 marbles
- D) 5 soccer balls
- E) 2 soda cans

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Accessibility : Keyboard Navigation

Gradable : automatic

59) The number 0.0035880 expressed correctly using scientific notation is \_\_\_\_\_.

59) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 0.0035889
- B)  $3.5880 \times 10^3$
- C)  $3.5880 \times 10^{-3}$
- D)  $3.5880 \times 10^{-4}$
- E)  $3.588 \times 10^{-3}$

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

60) The measurement 78,005,760 expressed correctly using scientific notation is \_\_\_\_\_.

60) \_\_\_\_\_

- A)  $7.8005760 \times 10^7$
- B)  $7.8005760 \times 10^{-7}$
- C)  $7.8 \times 10^7$
- D)  $7.800576 \times 10^{-7}$
- E)  $7.800576 \times 10^7$

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

61) When  $4.870 \times 10^{-3}$  is correctly converted to its standard form the number becomes \_\_\_\_\_.

# General Organic and Biological Chemistry 5th Edition by Smith CH01

61) \_\_\_\_\_

- A) 4870
- B) 4870.
- C) 0.00487
- D) 0.004870
- E) 0.0004870

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

62) Which number is the largest?

62) \_\_\_\_\_

- A)  $4.38 \times 10^3$
- B)  $4.38 \times 10^2$
- C)  $4.38 \times 10^{-3}$
- D)  $4.38 \times 10^{-2}$
- E) 438

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Bloom's : 3. Apply

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

63) Which number is the smallest?

63) \_\_\_\_\_

- A)  $4.38 \times 10^3$
- B)  $4.38 \times 10^2$
- C)  $4.38 \times 10^{-3}$
- D)  $4.38 \times 10^{-2}$
- E) 438

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

64) When 0.022189 is correctly rounded to two significant figures the number becomes \_\_\_\_\_.

64) \_\_\_\_\_

- A) 0.02
- B) 0.022
- C) 22
- D) 0.023
- E) 0.0222

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

65) When  $5.5490 \times 10^8$  is correctly rounded to three significant figures the number becomes \_\_\_\_\_.

65) \_\_\_\_\_

- A) 5.55
- B)  $5.55 \times 10^8$
- C) 555
- D) 554
- E)  $5.54 \times 10^8$

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

66) Which number contains four significant figures?

66) \_\_\_\_\_

- A) 3.908
- B) 0.780
- C) 0.0085
- D) 1700
- E) Two or more of the numbers contain four significant figures.

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**67)** Carry out the following calculation and report the answer using the proper number of significant figures:  $38.251 + 73.1$

67) \_\_\_\_\_

- A) 111
- B) 111.3
- C) 111.4
- D) 111.35
- E) 111.351

## Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Bloom's : 3. Apply

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**68)** Carry out the following calculation and report the answer using the proper number of significant figures:

$$549.101 + 8.12 + 95.0076 - 651.9$$

68) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 3.286
- B) 0.3286
- C) 0.33
- D) 0.3
- E) 1268.1

### Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**69)** Carry out the following calculation and report the answer using the proper number of significant figures:

$$38.251 \times 73.1$$

69) \_\_\_\_\_

- A) 2796.1481
- B) 2796.15
- C) 2796.1
- D) 2796
- E)  $2.80 \times 10^3$

### Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Bloom's : 3. Apply

Difficulty : Medium

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic



# General Organic and Biological Chemistry 5th Edition by Smith CH01

70) Carry out the following calculation and report the answer using the proper number of significant figures:

$$\frac{16.75 \text{ ft}}{0.54 \text{ s}}$$

70) \_\_\_\_\_

- A) 31.0185 ft/s
- B) 31.01 ft/s
- C) 31.02 ft/s
- D) 31.0 ft/s
- E) 31 ft/s

## Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

71) The base unit for mass in the metric system is the \_\_\_\_\_.

71) \_\_\_\_\_

- A) pound
- B) liter
- C) centigram
- D) ton
- E) gram

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Accessibility : Keyboard Navigation

Subtopic : Metric System

Gradable : automatic

72) The base unit for volume in the metric system is the \_\_\_\_\_.

72) \_\_\_\_\_

- A) quart
- B) liter
- C) pint
- D) gallon
- E) cup

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Accessibility : Keyboard Navigation

Subtopic : Metric System

Gradable : automatic

73) What is the correct metric relationship between milliliters and microliters?

73) \_\_\_\_\_

- A) 1 milliliter = 1 microliter
- B) 1,000 milliliters = 1 microliter
- C) 1 milliliter = 1,000 microliters
- D) 1,000,000 milliliters = 1 microliter
- E) 1 milliliter = 1,000,000 microliters

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 4. Analyze

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**74)** Which metric relationship is INCORRECT?

74) \_\_\_\_\_

- A) 1 milligram = 1,000 grams
- B) 1 dL = 100 mL
- C) 1 km = 1,000 m
- D) 100 cg = 1 g
- E) 1 liter = 1,000,000 microliters

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 4. Analyze

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**75)** Which is the proper conversion factor for converting a mass expressed in pounds (lbs) to the same mass expressed in grams (g)?

75) \_\_\_\_\_

# General Organic and Biological Chemistry 5th Edition by Smith CH01

$$\frac{1 \text{ g}}{454 \text{ lbs}}$$

A)  $\frac{454 \text{ lbs}}{454 \text{ g}}$

B)  $\frac{1 \text{ lb}}{454 \text{ lbs}}$

C)  $\frac{1 \text{ g}}{1 \text{ lb}}$

D)  $\frac{1 \text{ lb}}{454 \text{ g}}$

E) None of the conversion factors provided are correct.

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Subtopic : Dimensional Analysis

Bloom's : 4. Analyze

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

76) Which length is the longest?

76) \_\_\_\_\_

A) 12 m

B) 12,000 mm

C) 12,000  $\mu\text{m}$

D) 12,000 cm

E) 0.0012 km

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 4. Analyze

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

77) What is the height (in meters) of patient who measures 6.0 feet tall?

77) \_\_\_\_\_

- A) 0.55 m
- B) 1.3 m
- C) 1.8 m
- D) 19 m
- E)  $2.0 \times 10^2$  m

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Dimensional Analysis

Bloom's : 4. Analyze

Subtopic : Measurements (Metric and SI Units)

Accessibility : Keyboard Navigation

Gradable : automatic

78) A single dose of medication has a mass of 450mg. What is this mass in grams?

78) \_\_\_\_\_

- A) 0.00045 g
- B) 0.0045 g
- C) 0.045 g
- D) 0.45 g
- E) 4.5 g

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Accessibility : Keyboard Navigation

Gradable : automatic

**79)** A syringe has a volume of 5.0 mL. What is this volume in deciliters?

79) \_\_\_\_\_

A) 0.00050 dL

B) 0.0050 dL

C) 0.050 dL

D) 0.50 dL

E) 50. dL

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**80)** What is the mass in kilograms of an individual who weighs 197 lbs.?

80) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 197 kg
- B) 8.95 kg
- C) 89.5 kg
- D) 90 kg
- E) 433 kg

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

81) If a balloon has a volume of 21.6 cups, what is the volume of this balloon expressed in L?

81) \_\_\_\_\_

- A) 86.4 L
- B) 81.51 L
- C) 5.72 L
- D) 5.108 L
- E) 5.11 L

### Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

82) Which volume is equivalent to 225 mL?

## General Organic and Biological Chemistry 5th Edition by Smith CH01

82) \_\_\_\_\_

- A)  $2.25 \times 10^5 \mu\text{L}$
- B)  $2.25 \times 10^2 \mu\text{L}$
- C) 2.25 L
- D)  $2.25 \times 10^{-5} \mu\text{L}$
- E) 0.225  $\mu\text{L}$

### Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**83)** If a package of nuts weighs 41.3 oz, what is the mass of the package expressed in milligrams?

83) \_\_\_\_\_

- A) 1.17 mg
- B)  $1.17 \times 10^3 \text{ mg}$
- C)  $1.17 \times 10^6 \text{ mg}$
- D) 117<sup></sup>mg</sup>
- E)  $3.00 \times 10^5 \text{ mg}$



# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

84) If a tree is 89.5 cm tall, what is the tree's height expressed in yards?

84) \_\_\_\_\_

A) 0.979 yd

B) 6.31 yd

C) 18.9 yd

D) 35.2 yd

E) 227 yd

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

85) If the density of a 5.25g blood sample is 1.05 g/mL, what is the volume of the sample, reported in mL?

85) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 5 mL
- B) 5.5 mL
- C) 5.00 mL
- D) 0.20 mL
- E) 2.5 mL

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**86)** A 15.0 mL urine sample from a dehydrated patient has a density of 1.019 g/mL. What is the mass of the sample, reported in mg?

86) \_\_\_\_\_

- A) 15.3 mg
- B) 67.9 mg
- C)  $6.79 \times 10^{-5}$  mg
- D)  $1.53 \times 10^4$  mg
- E)  $1.47 \times 10^4$  mg

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

87) If honey has a density of 1.36 g/mL, what is the mass of 1.25 qt, reported in kilograms?

87) \_\_\_\_\_

- A) 1.60 kg
- B)  $1.6 \times 10^3$  kg
- C) 0.974 kg
- D) 974 kg
- E) 1.80 kg

### Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

88) If a piece of rock has a volume of 0.73 L and a mass of 1524 g, what is the density of the rock in g/mL?

88) \_\_\_\_\_

- A)  $2.1 \times 10^3$  g/mL
- B) 0.48 g/mL
- C)  $4.8 \times 10^{-4}$  g/mL
- D) 2.1 g/mL
- E) 2.088 g/mL

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## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

89) A urine sample has a density of 1.010 g/mL. What is its specific gravity?

89) \_\_\_\_\_

A) 0.0404

B) 1.003

C) 24.75

D) 25.25

E) 1.010

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Accessibility : Keyboard Navigation

Gradable : automatic

90) What is the mass (in grams) of 12 cm<sup>3</sup> of silver if it has a specific gravity of 10.49?

90) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 0.87 g
- B) 130 g
- C) 1.1 g
- D) 110 g
- E) 11 g

### Question Details

Bloom's : 1. Remember

Topic : Study of Chemistry

Difficulty : Hard

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Accessibility : Keyboard Navigation

Gradable : automatic

91) A hiker with hypothermia has a body temperature of 82 °F. What is his body temperature in °C?

91) \_\_\_\_\_

- A) 14 °C
- B) 28 °C
- C) 31 °C
- D) 50 °C
- E) 180 °C

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

92) On an autumn day in Washington, DC, the outdoor temperature was 21 °C. What was this outdoor temperature in °F?

92) \_\_\_\_\_

- A) 44 °F
- B) 57 °F
- C) 69 °F
- D) 70 °F
- E) 85 °F

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

93) An oven is set for a temperature of 298 °F. What is the oven temperature in K?

93) \_\_\_\_\_

- A) 166 K
- B) 421 K
- C) 148 K
- D) 571 K
- E) 439 K

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## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

94) Salmonella, a genus of Gram-negative bacteria, can be killed at 344K. What is this temperature in °F?

94) \_\_\_\_\_

A) 160 °F

B) 71 °F

C) 617 °F

D) 651 °F

E) 173 °F

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

95) Which of the following temperatures is the hottest?

95) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 100 °C
- B) 100 °F
- C) 100 K
- D) All would feel equally warm.

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 4. Analyze

Subtopic : Temperature

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**96)** The recommended dietary allowance for calcium for teenage children is 1,300 mg per day. If a typical 8.0-fl oz glass of reduced-fat milk contains 298 mg of calcium, how many fluid ounces of milk does a teenager need to drink to get the entire recommended amount of calcium from this milk?

96) \_\_\_\_\_

- A) 4.4 fl oz
- B) 1.8 fl oz
- C) 3.5 fl oz
- D) 35 fl oz
- E) 32 fl oz

### Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic



## General Organic and Biological Chemistry 5th Edition by Smith CH01

97) What is the density of a sample of rubbing alcohol if it has a specific gravity of 0.789?

97) \_\_\_\_\_

- A) 1.27 g/mL
- B) 0.789 g/mL
- C) 1.00 g/mL
- D) 0.895 g/mL
- E) 1.58 g/mL

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

98) Which of the following conversions is correct and expresses the answer using the proper number of significant figures?

98) \_\_\_\_\_

# General Organic and Biological Chemistry 5th Edition by Smith CH01

- A)  $3.779 \cancel{\text{ lb}} \times \frac{454 \cancel{\text{ g}}}{1 \cancel{\text{ lb}}} \times \frac{1,000 \text{ mg}}{1 \cancel{\text{ g}}} = 1.7 \times 10^6 \text{ mg}$
- B)  $553 \cancel{\text{ dL}} \times \frac{1 \cancel{\text{ L}}}{10 \cancel{\text{ dL}}} \times \frac{10^3 \text{ mL}}{1 \cancel{\text{ L}}} = 5.5 \times 10^4 \text{ mL}$
- C)  $623 \cancel{\text{ nm}} \times \frac{1 \cancel{\text{ m}}}{10^9 \cancel{\text{ nm}}} \times \frac{39.4 \text{ in}}{1 \cancel{\text{ m}}} = 2.45 \times 10^{-5} \text{ in}$
- D)  $623 \cancel{\text{ nm}} \times \frac{1 \cancel{\text{ m}}}{10^6 \cancel{\text{ nm}}} \times \frac{39.4 \text{ in}}{1 \cancel{\text{ m}}} = 2.45 \times 10^{-2} \text{ in}$

## Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

99) What is the mass in grams of 85.32 mL of blood plasma with a density of 1.03 g/mL?

99) \_\_\_\_\_

- A) 85.32 g
- B) 82.83 g
- C) 82.8 g
- D) 87.88 g
- E) 87.9 g

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**100)** If a 185-lb patient is prescribed 145 mg of the cholesterol lowering drug Tricor daily, what dosage is the patient receiving in mg/kg of his body weight?

100) \_\_\_\_\_

- A) 0.784 mg/kg
- B) 1.28 mg/kg
- C) 0.356 mg/kg
- D) 1.72 mg/kg
- E) 0.580 mg/kg

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**101)** The estimated average daily requirement of folic acid for pregnant females is 520 micrograms. Which accurately expresses this value?

101) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 520 mg
- B) 520 Mg
- C) 520 mG
- D) 520  $\mu\text{g}$
- E) 520  $\mu\text{G}$

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**102)** For a person between the ages of 10 and 29, the normal range of blood triglycerides is  $53 \times 10^4$  mg/dL. What is the correct interpretation of the units in this measurement?

102) \_\_\_\_\_

- A) milligrams times deciliter
- B) micrograms per deciliter
- C) megagrams per deciliter
- D) milligrams per deciliter
- E) micrograms times deciliter

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

**103)** A patient's urine sample has a density of 1.02 g/mL. If 1250 mL of urine was excreted by the patient in one day, what mass of urine was eliminated?

103) \_\_\_\_\_

- A) 1.28 kg
- B) 1225 g
- C) 1275 g
- D) 128 g
- E) 12.3 g

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**104)** The density of human urine is normally between 1.003 and 1.030 g/mL, and is often used as a diagnostic tool. If a 25.00 mL sample of urine from a patient has a mass of 26.875 g, how does the density of the urine sample compare to the normal range?

104) \_\_\_\_\_

- A) The density of the sample is lower than the normal range.
- B) The density of the sample is greater than the normal range.
- C) The density of the sample is within the normal range.
- D) There is insufficient information to make a comparison.

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Difficulty : Medium

Subtopic : Dimensional Analysis

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**105)** Which volume has the most uncertainty associated with the measurement?

105) \_\_\_\_\_

- A) 10 mL
- B) 10.0 mL
- C) 10.00 mL
- D) 10.000 mL
- E) All have the same degree of uncertainty.

## Question Details

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**106)** Air has a density of 0.001226 g/mL. What volume of air would have a mass of 1.0 lb?

106) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) 2.7 mL
- B) 815.6 mL
- C) 37 mL
- D)  $3.7 \times 10^2$  L
- E)  $8.2 \times 10^2$  mL

### Question Details

Topic : Study of Chemistry  
Subtopic : Scientific Notation and Significant Figures  
Difficulty : Hard  
Bloom's : 5. Evaluate  
Subtopic : Dimensional Analysis  
Subtopic : Measurements (Metric and SI Units)  
Subtopic : Density and Specific Gravity  
Chapter : 01  
Accessibility : Keyboard Navigation  
Gradable : automatic

**107)** A beaker contains 145.675 mL of a saline solution. If 24.2 mL of the saline solution are removed from the beaker, what volume of solution remains?

107) \_\_\_\_\_

- A) 121.475 mL
- B) 121.47 mL
- C) 121.5 mL
- D) 121.4 mL
- E) 121 mL

### Question Details

Difficulty : Easy  
Topic : Study of Chemistry  
Bloom's : 4. Analyze  
Subtopic : Measurements (Metric and SI Units)  
Chapter : 01  
Accessibility : Keyboard Navigation  
Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

**108)** The prescribed dosage of amoxicillin for the treatment of a moderate case of bronchitis in an average adult is 500mg/8 hours. If the patient is told to continue the medication for a total of 6 days, what is the total mass of amoxicillin taken, expressed in grams?

108) \_\_\_\_\_

- A) 2 g
- B) 1 g
- C) 0.4 g
- D) 4 g
- E) 9 g

### Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**109)** Diphenhydramine is the active ingredient in many common over-the-counter antihistamine medications. The packaging indicates that the typical adult dosage is 50mg of diphenhydramine every 6 hours. Each tablet contains 25mg of drug. How many tablets will be taken over the course of 4 days?

109) \_\_\_\_\_

- A) 32 tablets
- B) 24 tablets
- C) 16 tablets
- D) 8 tablets
- E) 4 tablets



# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**110)** How many of the following objects will float in a beaker of water at 4°C when water's density is at a maximum of 1.00 g/mL?

Object A with a density of 0.950 g/mL

Object B with a density of 1.00 g/mL

Object C with a density of 13.2 g/mL

Object D with a density of 2.10 g/mL

110) \_\_\_\_\_

A) 0

B) 1

C) 2

D) 3

E) 4

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**111)** During a laboratory experiment, an object with a density of 1.2 g/cm<sup>3</sup> is placed into a graduated cylinder containing a liquid with a density of 1.8 g/cm<sup>3</sup>. Which of the following statements best characterizes the observations and conclusions from the laboratory?

111) \_\_\_\_\_

## General Organic and Biological Chemistry 5th Edition by Smith CH01

- A) The object is less dense than the liquid, so the object will sink in the liquid.
- B) The object is less dense than the liquid, so the object will float in the liquid.
- C) The object is more dense than the liquid, so the object will sink in the liquid.
- D) The object is more dense than the liquid, so the object will float in the liquid.
- E) The object's density and the liquid's density are similar, so the object will suspend in the liquid.

### Question Details

Topic : Study of Chemistry  
Difficulty : Medium  
Bloom's : 4. Analyze  
Subtopic : Density and Specific Gravity  
Chapter : 01  
Accessibility : Keyboard Navigation  
Gradable : automatic

**112)** If you have equal masses of two different substances (A and B), and the density of A is twice the density of B, then the volume of A is \_\_\_\_\_ the volume of B.

112) \_\_\_\_\_

- A) one-quarter
- B) one-half
- C) the same as
- D) two times
- E) four times

### Question Details

Topic : Study of Chemistry  
Difficulty : Hard  
Bloom's : 5. Evaluate  
Subtopic : Dimensional Analysis  
Subtopic : Density and Specific Gravity  
Chapter : 01  
Accessibility : Keyboard Navigation  
Gradable : automatic

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**FILL IN THE BLANK. Write the word or phrase that best completes each statement or answers the question.**

113) A \_\_\_\_\_ change converts one material to another.

113) \_\_\_\_\_

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

114) The measurement 0.030500 m has \_\_\_\_\_ significant figures.

114) \_\_\_\_\_

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

115) The measurement 4008 L has \_\_\_\_\_ significant figures.

115) \_\_\_\_\_

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## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

116) The measurement 32.0 m has \_\_\_\_\_ significant figures.

116) \_\_\_\_\_

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

117) The measurement 0.0002 g has \_\_\_\_\_ significant figures.

117) \_\_\_\_\_

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

118) The measurement  $9.0 \times 10^3$  km has \_\_\_\_\_ significant figures.

118) \_\_\_\_\_

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Scientific Notation and Significant Figures

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**119)** When the measurement 340,942 s is rounded to two significant figures, the value is properly reported as \_\_\_\_\_.

119) \_\_\_\_\_

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Bloom's : 3. Apply

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**120)** To use conversion factors to solve a problem, set up the problem with any unwanted unit in the numerator of one term and the \_\_\_\_\_ of another term, so that unwanted units cancel.

120) \_\_\_\_\_

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**121)** Every measurement is composed of a number and a \_\_\_\_\_.

# General Organic and Biological Chemistry 5th Edition by Smith CH01

121) \_\_\_\_\_

## Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**122)** A small banana contains 323 mg of the nutrient potassium. You would need to eat approximately \_\_\_\_\_ small bananas in one day to obtain the recommended daily intake of 3.5 g of potassium.

122) \_\_\_\_\_

## Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**123)** The measurement 5342 nm is the same length as \_\_\_\_\_ cm, written in scientific notation.

123) \_\_\_\_\_

## Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

## General Organic and Biological Chemistry 5th Edition by Smith CH01

**124)** When crude oil leaks into the ocean from an oil tanker, the crude oil floats, because it is \_\_\_\_\_ dense than water.

124) \_\_\_\_\_

### Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Subtopic : Density and Specific Gravity

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**125)** Ultraviolet light converts oxygen gas ( $O_2$ ) into ozone ( $O_3$ ) in the stratosphere. This is an example of a \_\_\_\_\_ change.

125) \_\_\_\_\_

### Question Details

Difficulty : Easy

Bloom's : 1. Remember

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**126)** The Recommended Dietary Allowance (RDA) for iron for females is 18 mg. If each vitamin supplement contains 0.006 g of iron, \_\_\_\_\_ vitamin supplements must be taken per day to meet the RDA for iron.

126) \_\_\_\_\_

# General Organic and Biological Chemistry 5th Edition by Smith CH01

## Question Details

Topic : Study of Chemistry

Subtopic : Scientific Notation and Significant Figures

Difficulty : Medium

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Subtopic : Measurements (Metric and SI Units)

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**127)** The state of matter of substance that has a definite volume and takes the shape of the container that it is in is classified as a \_\_\_\_\_.

127) \_\_\_\_\_

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Subtopic : Classification and States of Matter

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

**128)** The classic dessert, pound cake, got its name from the fact that the original recipe called for one pound of butter, one pound of sugar, and one pound of flour. An amateur baker wanted to test to see if the new recipe did indeed require 1 lb of sugar, so he took the mass of the 2 cups of sugar that the recipe required and found that it had a mass of 454 g. The old recipe and the new recipe \_\_\_\_\_ require the same mass of sugar. (do/ do not)

128) \_\_\_\_\_

## Question Details

Difficulty : Easy

Topic : Study of Chemistry

Bloom's : 2. Understand

Chapter : 01

Accessibility : Keyboard Navigation

Subtopic : Measurements (English and Metric Units)

Gradable : automatic



## General Organic and Biological Chemistry 5th Edition by Smith CH01

**129)** The jeweler insists that the necklace in the display case is made of pure gold. Pure gold has a density of about 19 g/mL. If the mass of the necklace is 8.0g and the volume is 0.48 mL. The density of the necklace is \_\_\_\_\_, so the necklace \_\_\_\_\_ pure gold. (is, is not)

129) \_\_\_\_\_

### Question Details

Topic : Study of Chemistry

Difficulty : Medium

Bloom's : 5. Evaluate

Chapter : 01

Accessibility : Keyboard Navigation

Subtopic : Density Calculations

Gradable : automatic

**130)** A patient with a severe upper respiratory infection is prescribed Cephalexin, an antibiotic. The pharmacy dispenses a total mass of 5250 mg of the antibiotic in capsule form, enough for exactly 7 days of treatment. The patient is told to take 3 capsules per day. The mass of Cephalexin in each capsule is \_\_\_\_\_.

130) \_\_\_\_\_

### Question Details

Topic : Study of Chemistry

Difficulty : Hard

Bloom's : 5. Evaluate

Subtopic : Dimensional Analysis

Chapter : 01

Accessibility : Keyboard Navigation

Gradable : automatic

# **General Organic and Biological Chemistry 5th Edition by Smith CH01 Answer Key**

Test name: CH01

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

## **General Organic and Biological Chemistry 5th Edition by Smith CH01**

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

## **General Organic and Biological Chemistry 5th Edition by Smith CH01**

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

## **General Organic and Biological Chemistry 5th Edition by Smith CH01**

- 86) D
- 87) A
- 88) D
- 89) E
- 90) B
- 91) B
- 92) D
- 93) B
- 94) A
- 95) A
- 96) D
- 97) B
- 98) C
- 99) E
- 100) D
- 101) D
- 102) D
- 103) A
- 104) B
- 105) A
- 106) D
- 107) C
- 108) E
- 109) A
- 110) B
- 111) B
- 112) B
- 113) chemical
- 114) 5
- 115) four

## **General Organic and Biological Chemistry 5th Edition by Smith CH01**

116) three

117) 1

118) two

119)  $3.4 \times 10^5$

120) denominator

121) unit

122) 11

123)  $5.342 \times 10^{-4}$

124) less

125) chemical

126) 3

127) liquid

128) do

129) [17 g/mL, is not]

130) 250. mg