Chemistry in Focus 7th edition Tro Test Bank

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Chapter 02

1. The result of an addition or subtraction should have the same number of decimal places as the quantity carrying the _____.

a. the most precise number
b. the least precise number
c. highest number of significant figures
d. least number of significant figures
e. highest decimal numbers

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Measurement
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2. The result of a multiplication or division should carry the same number of significant digits as the factor with the _____.

a. the most precise number
b. the least precise number
c. highest number of significant figures
d. least number of significant figures
e. highest decimal numbers

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Measurement
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3. How many significant figures are there in the number 10.00?

a. 1
b. 2
c. 3
d. 4
e. 0

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Measurement

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4. How many significant figures are there in the number 10,100?

a. 1
b. 3
c. 4
d. 5
e. 0

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Measurement
DATE CREATED: 4/3/2014 7:50 AM
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5. Determine the density of a 50.0 g sample of mercury having a volume of 3.66 mL. Carry out the calculation to the correct number of significant digits.

a. 13.66 g/mL
b. 13.7 mL
c. 183 g/mL
d. 0.0732 g/mL
e. 0.073 g/mL

ANSWER: b
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
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6. Determine the density of a 100.0 g sample of mercury having a volume of 7.36 cm3. Carry out the calculation to the correct number of significant digits.

a. 13.58 g/cm^3
b. 13.66 g/cm^3
c. 183 g/cm^3
d. 0.0732 g/cm^3
e. 0.073 g/cm^3

ANSWER: a
POINTS: 1

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DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
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7. Determine the mass in grams of a gold sample that occupies a volume of 16.39 mL? Gold has a density of 19.3 g/mL.
   a. 0.118 g
   b. 0.316 g
   c. 0.849 g
   d. 1.18 g
   e. 316 g

ANSWER: e
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
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8. Determine the volume occupied by 1.5 g of ethyl alcohol. The density of ethyl alcohol is 0.789 g/mL.
   a. 1.9 mL
   b. 1.3 mL
   c. 0.53 mL
   d. 0.526 mL
   e. 1.331 mL

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
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9. Chloroform is a commonly used anesthetic with a density of 1.483 g/mL. Determine the volume of chloroform needed to administer a 9.37 g sample of the anesthetic.
   a. 0.158 g
   b. 6.32 g
   c. 13.9 g
   d. 13.89 g
   e. 0.0632 g

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ANSWER: b
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
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10. If 15.0 mL of a metal has a mass of 103.0 g, what is the density of the metal?
    a. 6.87 g/mL
    b. 1550 g/ mL
    c. 0.146 g/mL
    d. 1.46 g/mL
    e. 9.867 g/mL

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
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11. The density of gold is 19.3 g/mL. If the current price of gold is $56.75 per gram, what is the volume of a nugget of gold worth $150.00?
    a. 1.15 mL
    b. 0.868 mL
    c. 1.72 mL
    d. 1.27 mL
    e. 0.137 mL

ANSWER: e
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
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12. What is the standard SI unit for mass?
    a. Gram
    b. Pound
    c. Ounce

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d. Kilogram
e. Ton

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
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13. What is the standard SI unit for length?
a. Meter
b. Feet
c. Mile
d. Kilometer
e. Centimeter

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
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14. What is the correct SI unit for time?
a. Millisecond
b. Hour
c. Second
d. Minute
e. Microsecond

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
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15. Which of these represents the SI prefix for micro (μ)?
a. 10^{-6}
b. 10^{-3}

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c. 10^{-9}

d. 10^{-2}

e. 10^{6}

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
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16. Which of these represents the SI prefix for centi (c)?

a. 10^{-6}

b. 10^{-3}

c. 10^{-1}

d. 10^{-2}

e. 102

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
DATE CREATED: 4/3/2014 7:50 AM
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17. Which of these represents the SI prefix for mega (M)?

a. 10^{9}

b. 10^{6}

c. 10^{3}

d. 10^{-2}

e. 10^{-6}

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
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18. The diameter of the nucleus of an atom is approximately $1 \times 10{-}13$ m. If 1 nm is equal to 10 Å, what is the diameter of the nucleus in Å? (1 nm = 1 x 10−9m)

a. 1×10^{-21} Å
b. 1×10^{-6} Å
c. 1×10^{-5} Å
d. 1×10^{-4} Å
e. 1×10^{-3} Å

ANSWER: e
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
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19. Convert 89.5 m to millimeters.

a. 8.95×10^{4} mm
b. 8.95×10^{-4} mm
c. 8.95×10^{2} mm
d. 8.95×10^{-2} mm
e. 8.95×10^{5} mm

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
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20. Which of the following is not true?

a. 1 cm = .01 m
b. 100 cm = 1 m
c. 1 cm = 100m
d. .01 cm = .0001m
e. 10000 cm = 100 m

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice

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HAS VARIABLES: False
TOPICS: Units in Measurement
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21. Given that 1 in = 2.54 cm, which of the following is true?
    a. $1\ in^2 = 2.54\ cm^2$
    b. $1\ in^2 = 5.08\ cm^2$
    c. $1\ in^2 = 6.45\ cm^2$
    d. $1\ in^2 = 1.27\ cm^2$
    e. $1\ in^2 = 10.16\ cm^2$

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
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22. One m^3 equals _____.
    a. $1000\ mm^3$
    b. $1{,}000{,}000\ mm^3$
    c. $1{,}000{,}000{,}000\ mm^3$
    d. $1{,}000{,}000{,}000{,}000\ mm^3$
    e. 1,000,000,000,000,000 mm3

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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23. One milliliter is equal to _____.
    a. 2.54 cubic inches
    b. 1000 liters
    c. 1 cubic centimeter
    d. 16.39 cubic inches
    e. 0.6214 cubic inches

ANSWER: c

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POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
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24. One in^3 equals _____.
    a. 2.54 cm^3
    b. 7.62 cm^3
    c. 16.38 cm^3
    d. 0.394 cm^3
    e. 3.94 cm^3

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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25. The long jump record is 8.90 m. What is the length in inches? (1 m = 39.37 in)
    a. 9.73 in
    b. 293 in
    c. 350 in
    d. 4204 in
    e. 5000 in

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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26. The long jump record is 8.90 m. What is the length in yards? (1 yd = 0.9144 m)
    a. 9.73 yd
    b. 293 yd
    c. 350 yd
    d. 4204 yd

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e. 5000 yd

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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27. A football field is 100.0 yd long. What is its length in meters? (1 yd = 0.9144 m)
    a. 0.09144 m
    b. 91.44 m
    c. 274.32 m
    d. 334 m
    e. 9.144×10^3 m

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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28. A football field is 100 yd long. What is its length in centimeters? (1 yd = 0.9144 m)
    a. 0.09144 cm
    b. 91.44 cm
    c. 274.32 cm
    d. 334 cm
    e. 9.144×10^3 cm

ANSWER: e
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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29. How many kilograms of calcium are there in 173 lb of calcium? (1 lb = 454 g)
    a. 1.1 kg
    b. 78.54 kg

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c. 1.1×10^2 kg
d. 3.8×10^4 kg
e. 7.85×10^4 kg

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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30. Most races are now measured in kilometers. What is the distance in miles a runner must complete in a 10-kilometer run? (1 km = 0.62137 mile)

a. 3.1 miles
b. 6.2 miles
c. 16.1 miles
d. 32.2 miles
e. 62.137 miles

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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31. Convert 2.50×10^4 meters to miles. (1 km = 0.62137 mile)

a. 76.2 miles
b. 6.35 miles
c. 15.5 miles
d. 155 miles
e. 186 miles

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
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32. Convert 10.5 mm/s to ft/hr.

a. 124 ft/hr
b. 9.57×10^{-6} ft/hr
c. .0344 ft/hr
d. 37800 ft/hr
e. 0.125 ft/hr

ANSWER: a
POINTS: 1
DIFFICULTY: Difficult
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
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33. Which among the following has the most number of significant figures?

a. 0.5071
b. 0.201
c. 6.02×10^{23}
d. 51
e. 103

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
DATE CREATED: 4/3/2014 7:50 AM
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34. Solve the problem.

3.728 + 6.272 = _____

a. 10
b. 10.0
c. 10.00
d. 10.000
e. 10.0000

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving

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Chapter 02

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35. Solve the problem.

$3.72 \times 108 \times 9.26 \times 10{-}3 =$ _____

a. 3.44×10^{6}
b. 4.02×10^{10}
c. 3.45×10^{5}
d. 3.44×10^{-4}
e. 4.02×10^{-10}

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
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36. Solve the problem.

$1.5 \times 10^{3} + 3.14 \times 10^{4} - 1.21 \times 10^{2} =$ _____

a. 3.28×10^{4}
b. 3.30×10^{3}
c. 3.3×10^{-4}
d. 3.30×10^{5}
e. 3.43×10^{9}

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
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37. Solve the problem.

$(5.46 \times 10^{7} + 3.13 \times 10^{6}) \times (7.65 \times 10^{5}) =$ _____

a. 65.7×10^{18}
b. 130.7×10^{18}

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c. 4.42×10^{13}

d. 2.39×10^{12}

e. 65.7×10^{8}

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
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38. Solve the problem.

$(3.21 \times 10^{10} - 3.13 \times 10^{12}) \div (7.65 \times 10^{5}) =$ _____

a. 4.13×10^{6}

b. 2.37×10^{18}

c. 65.7×10^{18}

d. -23.7×10^{17}

e. -4.04×10^{6}

ANSWER: e
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
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39. Solve the problem.

$(12.67 \times 4.23) \div 23.42 =$ _____

a. 2.3587

b. 2.6334

c. 2.2289

d. 2.8800

e. 2.2884

ANSWER: e
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving

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40. Which among the following is an equivalent of 0.01%?
    a. 100 ppm
    b. 100 ppb
    c. 0.000001 ppm
    d. 0.000001 ppb
    e. 0.0001 ppm

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Reading Graphs
DATE CREATED: 4/3/2014 7:50 AM
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41. Which of these is the correct scientific notation for 6,000,220?
    a. 6.022×10^{5}
    b. 6.00022×10^{5}
    c. 6.00022×10^{6}
    d. 6.00022×10^{-5}
    e. 6.00022×10^{-6}

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Scientific Notation
DATE CREATED: 4/3/2014 7:50 AM
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42. Which of the following is correctly written using scientific notation?
    a. 50.0×10^{6}
    b. 4.02×10^{216}
    c. $1 \times 10^{-6.8}$
    d. $1.005 \times 10^{-9.05}$
    e. 10^{-5}

ANSWER: b
POINTS: 1
DIFFICULTY: Moderate

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Chapter 02

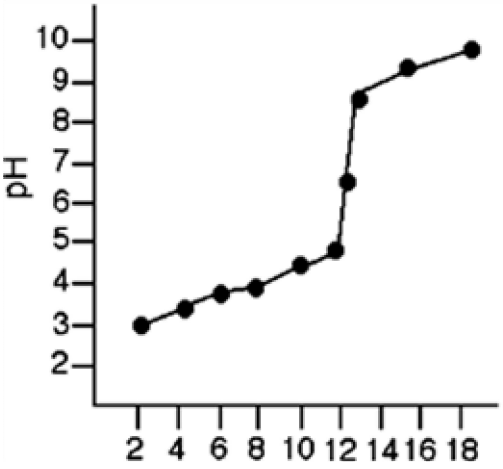
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Scientific Notation
DATE CREATED: 4/3/2014 7:50 AM
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43. Which of these is **incorrect**?

a. centi (c) = 10^{-2}
b. mega (M) = 10^{6}
c. milli (m) = 10^{-3}
d. nano (n) = 109
e. micro (μ) = 10^{-6}

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
DATE CREATED: 4/3/2014 7:50 AM
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Figure 2-1



44. Refer to Figure 2-1. What is the pH of the solution after 8 mL of the base has been added?

a. 3
b. 4
c. 6
d. 7
e. 8

ANSWER: b
POINTS: 1
DIFFICULTY: Easy

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QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
PREFACE NAME: Figure 2-1
TOPICS: Reading Graphs
DATE CREATED: 4/3/2014 7:50 AM
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45. Refer to Figure 2-1. What was the effect on the pH of the solution when the volume of the base was increased from 8 mL to 13 mL?
    a. The pH dropped by a value of 4.
    b. The pH increased by a value of 4.
    c. The pH remained relatively unchanged.
    d. The pH increased by a value of 10.
    e. The pH increased by a value of 20.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
PREFACE NAME: Figure 2-1
TOPICS: Reading Graphs
DATE CREATED: 4/3/2014 7:50 AM
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46. Refer to Figure 2-1. Which of these statements is **true** based on the data provided by the graph?
    a. The pH of the solution must be determined algebraically.
    b. The pH of the solution is relatively unaffected by the addition of the base.
    c. The pH of the solution is 7 when approximately 16 mL of the base has been added.
    d. The pH of the solution is relatively constant after the addition of the first 14 mL of the base.
    e. The pH of the solution rises significantly when the volume of the base is increased from 14 mL to 18 mL.

ANSWER: e
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
PREFACE NAME: Figure 2-1
TOPICS: Reading Graphs
DATE CREATED: 4/3/2014 7:50 AM
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47. Which of these numbers has four significant figures?
    a. 0.3211
    b. 0.201
    c. 6.02×10^{23}

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d. 510
e. 0.0103

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Measurement
DATE CREATED: 4/3/2014 7:50 AM
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48. Solve the problem.

$131.7 \times 1.05 =$ _____

a. 1.38×10^3
b. 1.38×10^2
c. 1.3×10^3
d. 1.3×10^3
e. 1.3×10^{-3}

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
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49. Solve the problem.

$33.5 \div 3.011 =$ _____

a. 1.11×10^1
b. 1.11×10^3
c. 1.113×10^1
d. 1.11×10^2
e. 1.112587×10^1

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM

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DATE MODIFIED: 1/23/2018 8:09 AM

50. Which of these is the correct normal decimal notation for 5.23×10^{-4}?

a. 0.0523
b. 0.00523
c. 0.0000523
d. 0.000523
e. 52,300

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Scientific Notation
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 4/3/2014 7:50 AM

51. Which of these is the correct normal notation for 7.77×10^{7}?

a. 0.000000777
b. 0.0777
c. 7,770
d. 7,770,000
e. 77,700,000

ANSWER: e
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Scientific Notation
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 4/3/2014 7:50 AM

52. Which of these is the correct normal notation for 8.14×10^{5}?

a. 0.0000814
b. 0.000814
c. 81.400
d. 814,000
e. 81,400,000

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False

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Chapter 02

TOPICS: Scientific Notation
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:12 AM

53. Which of these series provides the correct ascending order of values given?

I. 100 cm
II. 1 km
III. 10 m
IV. 100,000 mm

a. I < II < III < IV
b. II < I < IV < III
c. I < II = III < IV
d. I < IV < III < II
e. I < III < IV < II

ANSWER: e
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:14 AM

54. Which of these series correctly orders the values given from smallest to largest?

I. 0.001 Mg
II. 2,000,000 ng
III. 1 Gg
IV. 100,000 cg

a. III < II < II < IV
b. II < I < IV < III
c. II < I = IV < III
d. I < IV = III < II
e. I < III < IV < II

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 4/24/2015 6:21 AM

55. Because of the high heat and humidity in the summer in Death Valley, California, a hiker requires about one quart of water for every two miles traveled on foot. If the density of water is 0.999 g/mL at 45oC, how many kilograms of water are required for a person to walk 30 kilometers in Death Valley? (1 L = 1.0567 qt; 1 km = 0.62317 miles)

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a. 8.8 kg
b. 70 kg
c. 350 kg
d. 700 kg
e. 8.8×10^3 kg

ANSWER: a
POINTS: 1
DIFFICULTY: Difficult
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:16 AM

56. A sample of molten iron occupies a volume of 7.11×10^{-3} L. If the density of iron is 7.86 g/cm^3, what is the mass of iron in grams in the sample?

a. 0.000904 g
b. 0.0559 g
c. 0.904 g
d. 1.105 g
e. 55.8846 g

ANSWER: e
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:18 AM

57. An irregularly shaped piece of metal with a mass of 220 g was placed in a graduated cylinder that contained 35.00 mL of water. This raised the water level to 52.50 mL. What is the density of the metal?

a. 0.285 g/mL
b. 4.19 g/mL
c. 17.5 g/mL
d. 12.6 g/mL
e. 38.5 g/mL

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM

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DATE MODIFIED: 1/23/2018 8:19 AM

58. An irregularly shaped piece of metal with a mass of 105 g was placed in a graduated cylinder that contained 25.00 mL of water. This raised the water level to 45.35 mL. What is the density of the metal?

a. 0.238 g/mL
b. 2.3 g/mL
c. 4.2 g/mL
d. 5.16 g/mL
e. 20.35 g/mL

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:20 AM

59. Convert 4.5 inches to **meters**. (2.54 cm = 1 inch)

a. 0.1143 m
b. 1.77 m
c. 11.43 m
d. 0.0177 m
e. 1143 m

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 4/3/2014 7:50 AM

60. Determine the volume in liters of a 1.00-ounce bottle.(1.06 qt = 1 L; 32 ounces = 1 qt)

a. 0.0295 L
b. 0.03125 L
c. 0.03313 L
d. 30.2 L
e. 33.9 L

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False

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TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:23 AM

61. A regulation soccer field is 110.0 yards in length. Calculate the length in millimeters. (1.094 yards = 1 m)
    a. 0.101 mm
    b. 1.01 mm
    c. 100.5 mm
    d. 1.01×10^4 mm
    e. 1.01×10^5 mm

ANSWER: e
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 4/3/2014 7:50 AM

62. A 5 ft 7 in track athlete weighs 110 pounds. What is her height in cm and her weight in kilograms? (2.54 cm = 1 inch; 454 g = 1 pound)
    a. 14.5 cm and 242 kg
    b. 152 cm and 49.9 kg
    c. 170 cm and 49.9 kg
    d. 154 cm and 242 kg
    e. 152 cm and 4.99×10^4 kg

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:25 AM

63. Chemical waste is often shipped in 55-gallon drums. What is the weight in pounds of a 55-gallon drum if the density of the waste is 1.5942 g/cm^3? (454 g = 1 pound; 0.9463 L = 1 quart; 4 quarts = 1 gallon)
    a. 130 lbs
    b. 731 lbs
    c. 810 lbs
    d. 4.5×10^4 lbs
    e. 5.9×10^4 lbs

ANSWER: b

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Chapter 02

POINTS: 1
DIFFICULTY: Difficult
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 4/24/2015 6:13 AM

64. Solve the problem.

$5.6 \times 10^2 \times 7.41 \times 10^3 =$ _____

a. 232×10^1
b. 7.55×10^5
c. 2.32×10^5
d. 4.1×10^6
e. 232×10^5

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:27 AM

65. What is the mass in kilograms of a 25.00-pound dumbbell? (454 g = 1 pound)

a. 1.377×10^{-3} kg
b. 1.377 kg
c. 11.35 kg
d. 1.377×10^3 kg
e. 1.135×10^7 kg

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:28 AM

66. An international group of zookeepers with successful breeding programs made the following animal exchanges last year. Using the same bartering system, how many monkeys can a zoo obtain in exchange for 15 flamingos?

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3 oryxes = 1 tiger
1 camel = 6 anteaters
1 rhino = 4 monkeys
3 monkeys = 1 tiger
2 flamingos = 1 anteater
5 lemurs = 1 rhino
3 lemurs = 1 camel
1 rhino = 4 oryxes

a. 3 monkeys
b. 5 monkeys
c. 8 monkeys
d. 12 monkeys
e. 15 monkeys

ANSWER: a
POINTS: 1
DIFFICULTY: Difficult
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 4/3/2014 7:50 AM

67. Which of these samples of aluminum will occupy the greatest volume? (Density of aluminum = 2.70 g/cm^3; 454 g = 1 pound)

a. 10,000 g
b. 25 pounds
c. 1 kg
d. 5×10^{-2} L
e. 2,000 mL

ANSWER: b
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:30 AM

68. Which of these samples of water will have the greatest mass? (Density of water = 1.00 g/cm^3; 454 g = 1 pound)

a. 10,000 g
b. 25 pounds
c. 1 kg
d. 5×10^{-2} L
e. 2,000 mL

ANSWER: b
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice

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HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:30 AM

69. Solve the following equation for y:

$3y + 24 = 6y - 3$

a. 3
b. 6
c. 9
d. 8
e. 12

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:32 AM

70. Solve the following equation for y:

$3y = 24$

a. 3
b. 6
c. 7
d. 8
e. 12

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:33 AM

71. Solve the following equation for z:

$2(z + 6) - 10 = 42$

a. 6
b. 10
c. 12
d. 20

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e. 40

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:34 AM

72. Solve the following equation for z:

$4z \div 2z + 3 = 30$

a. 2
b. 6.25
c. 10
d. 11
e. 13.5

ANSWER: e
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:36 AM

73. Solve the following equation for x: $13x = x + 156$.

a. 13
b. 20
c. 1
d. 7
e. 12

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Problem Solving
DATE CREATED: 4/3/2014 7:50 AM
DATE MODIFIED: 1/23/2018 8:37 AM

74. The _____ of a substance is a measure of how much of its mass is in a given amount of space.

a. volume
b. density

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c. weight
d. force
e. resistance

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Density: A Measure of Compactness
DATE CREATED: 1/23/2018 8:37 AM
DATE MODIFIED: 1/23/2018 9:04 AM

75. The equivalent of 1 m is _____.
a. 3.54 in
b. 5.6 in
c. 2.5 in
d. 39.37 in
e. 31.35 in

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Converting Between Units
DATE CREATED: 1/23/2018 8:52 AM
DATE MODIFIED: 1/23/2018 8:54 AM

76. The equivalent of 31456 g is _____.
a. 3.1456×10^{-3} mg
b. 3.1456×10^{-3} kg
c. 31.456×10^{3} kg
d. 314.56 mg
e. 3.1456×10^{1} kg

ANSWER: e
POINTS: 1
DIFFICULTY: Moderate
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Scientific Notation
DATE CREATED: 1/23/2018 8:54 AM
DATE MODIFIED: 1/24/2018 8:52 AM

77. The SI unit of temperature is _____.

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a. kelvin
b. fahrenheit
c. celsius
d. rankine
e. newton

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Units in Measurement
DATE CREATED: 1/23/2018 8:56 AM
DATE MODIFIED: 1/23/2018 8:57 AM

78. Identify the non-significant term in 0.5467.

a. 0
b. 5
c. 4
d. 6
e. 7

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: Measurement
DATE CREATED: 1/23/2018 8:58 AM
DATE MODIFIED: 1/23/2018 8:59 AM

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