

all of them are pure

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 8


Multiple Choice

0 points

Question
Which of the following is an example of a *physical* property?

Answer

- corrosiveness of sulfuric acid
- toxicity of cyanide
- flammability of gasoline
- neutralization of stomach acid with an antacid
- ✓ lead becomes a liquid when heated to 601 °C

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 9

Multiple Choice

0 points

Question
Which one of the following is an example of a *physical* property?

Answer

- dynamite explodes
- meat rots if it is not refrigerated
- gasoline burns
- ✓ ice floats on top of liquid water
- a silver platter tarnishes

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 10


Multiple Choice

0 points

Question
Which one of the following represents a *physical* change?

Answer

- ✓ water, when heated to 100 °C, forms steam
- bleach turns hair yellow
- sugar, when heated, becomes brown
- milk turns sour
- apples, when exposed to air, turn brown

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 11


Multiple Choice

0 points

Question
All of the following are properties of sodium. Which one is a *physical* property of sodium?

Answer

- It is a surface turns black when first exposed to air.
- ✓ It is a solid at 25 °C and changes to a liquid when heated to 98 °C.
- When placed in water it sizzles and a gas is formed.
- When placed in contact with chlorine it forms a compound that melts at 801 °C.
- Sodium is never found as the pure metal in nature.

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 12

Multiple Choice

0 points

Question
All of the following are properties of tin. Which one is a *chemical* property of tin?

Answer

- Tin can be hammered into a thin sheet.
- At –40 °C a sheet of tin crumbles to a gray powder.
- Tin melts at 231.9 °C.
- When a bar of tin is bent, it emits an audible “cry”.
- ✓ Tin erodes when added to hydrochloric acid, and a clear gas forms.

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 13

Multiple Choice

0 points

Question
Which one of the following represents a *chemical* change?

Answer

- boiling water to form steam
- ✓ burning a piece of coal
- heating lead until it melts
- mixing iron filings and sand at room temperature
- breaking glass

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 14

Multiple Choice

0 points

Question
Which of the following does *not* represent a *chemical* change?

Answer

- a freshly cut apple turns brown
- milk turns sour on standing at room temperature
- ✓ when cooled to 0 °C, liquid water becomes ice
- frying an egg
- fermentation of sugar to alcohol

 [Add Question Here](#)
[Modify](#) | [Remove](#)

Question 15

Multiple Choice

0 points

Question

The SI prefixes *nano* and *deci* represent, respectively:

- Answer
- ☐

10^{-9} and 10^{-6} .
- ☐

10^6 and 10^{-3} .
- ☐

10^3 and 10^{-3} .
- ☐

10^9 and 10^{-6} .
- ☒

10^{-9} and 10^{-1} .

 [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 16

Multiple Choice

0 points

Question

The SI prefixes *milli* and *mega* represent, respectively:

- Answer
- ☐

10^6 and 10^{-6} .
- ☒

10^{-3} and 10^6 .
- ☐

10^3 and 10^{-6} .
- ☐

10^{-3} and 10^9 .
- ☐

10^{-6} and 10^{-3} .

 [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 17

Multiple Choice

0 points

Question

The SI prefixes *kilo* and *centi* represent, respectively:

- Answer
- ☒

10^3 and 10^{-2} .
- ☐

10^6 and 10^{-1} .
- ☐

10^{-3} and 10^{-2} .
- ☐

10^{-6} and 10^2 .
- ☐

10^2 and 10^{-3} .

 [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 18

Multiple Choice

0 points

Question

A nanometer corresponds to:

- Answer
- ☐

10^{-2} meters.
- ☐

10^{-3} meters.
- ☐

10^{-6} meters.
- ☒

10^{-9} meters.
- ☐

10^{-12} meters.

 [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 19

Multiple Choice

0 points

Question

A microliter corresponds to:

- Answer
- ☐

10^{-2} liters.
- ☐

10^{-3} liters.
- ☒

10^{-6} liters.
- ☐

10^{-9} liters.
- ☐

10^{-12} liters.

 [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 20

Multiple Choice

0 points

Question

6.0 km is how many micrometers?

- Answer
- ☐

$6.0 \times 10^6 \mu\text{m}$
- ☐

$1.7 \times 10^{-7} \mu\text{m}$
- ☒

$6.0 \times 10^9 \mu\text{m}$
- ☐

$1.7 \times 10^{-4} \mu\text{m}$
- ☐

$6.0 \times 10^3 \mu\text{m}$

 [Add Question Here](#)

[Modify](#) | [Remove](#)

Question 21

Multiple Choice

0 points

Question

2.4 km is how many millimeters?

- Answer
- ☐

2,400 mm
- ☐

2.4×10^4 mm
- ☐

2.4×10^5 mm
- ☒

2.4×10^6 mm
- ☐

2.4×10^{-5} mm

 [Add Question Here](#)

Question 22

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question
How many milliliters is 0.005 L?

Answer

0.5 mL

✓

5 mL

0.50 mL

0.000005 mL

200 mL

◀ [Add Question Here](#)

Question 23

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question
Express 7,500 nm as picometers.

Answer

7.50 pm

75.0 pm

750 pm

✓

 7.5×10^6 pm

7.5×10^{12} pm

◀ [Add Question Here](#)

Question 24

Multiple Choice

0 points

[Modify](#)

[Remove](#)

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

Answer

1.27×10^5 cm

1.27×10^6 cm

1.27×10^7 cm

1.27×10^8 cm

✓

 1.27×10^9 cm

◀ [Add Question Here](#)

Question 25

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question
In 1828, the diameter of the U.S. dime was changed to approximately 18 mm. What is this diameter when expressed in nanometers?

Answer

1.8×10^9 nm

✓

 1.8×10^7 nm

1.8×10^1 nm

1.8×10^{-5} nm

1.8×10^{-10} nm

◀ [Add Question Here](#)

Question 26

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question
Which of the following represents the largest mass?

Answer

2.0×10^2 mg

0.0010 kg

1.0×10^5 ng

✓

 2.0×10^2 cg

10.0 dg

◀ [Add Question Here](#)

Question 27

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question
Lead melts at 601.0°C. What temperature is this in °F?

Answer

302°F

365°F

1,050°F

1,082°F

✓

1,114°F

◀ [Add Question Here](#)

Question 28

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question
The element gallium melts at 29.8°C. What temperature is this in °F?

Answer

−54.1°F

−7.8°F

+13.5°F

+51.3°F

✓

+85.6°F

◀ [Add Question Here](#)

Question 29

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

Many home freezers maintain a temperature of 0°F. Express this temperature in °C.

- Answer
- ☐ −32°C
 - ☒ −18°C
 - ☐ 0°C
 - ☐ 18°C
 - ☐ 57.6°C

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 30

Multiple Choice

0 points

Question

The highest temperature ever recorded in Phoenix, Arizona, was 122°F. Express this temperature in °C.

- Answer
- ☒ 50.0°C
 - ☐ 64.4°C
 - ☐ 67.8°C
 - ☐ 162.0°C
 - ☐ 219.6°C

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 31


Multiple Choice

0 points

Question

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

- Answer
- ☐ −173°F
 - ☐ −12.6°F
 - ☒ −109°F
 - ☐ −75.6°F
 - ☐ none of them are within 2°F of the right answer

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 32

Multiple Choice

0 points

Question

Liquid nitrogen boils at −195.8°C. Express the boiling point of liquid nitrogen in kelvin.

- Answer
- ☐ −469.0 K
 - ☐ −77.4 K
 - ☐ all temperatures are 0 K on the Kelvin scale
 - ☒ 77.4 K
 - ☐ 469.0 K

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 33

Multiple Choice

0 points

Question

Liquid nitrogen boils at −195.8°C. Express the boiling point of liquid nitrogen in °F.

- Answer
- ☐ −384.4°F
 - ☐ −352.4°F
 - ☒ −320.4°F
 - ☐ −140.8°F
 - ☐ −76.8°F

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 34


Multiple Choice

0 points

Question

Express the number 26.7 in scientific notation.

- Answer
- ☐ 2.67×10^{-2}
 - ☐ 2.67×10^{-1}
 - ☒ 2.67×10^1
 - ☐ 2.67×10^2
 - ☐ 26.7 is already written in scientific notation

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 35

Multiple Choice

0 points

Question

Express the number 0.000053 in scientific notation.

- Answer
- ☐ 5.3×10^{-2}
 - ☐ 5.3×10^{-3}
 - ☐ 5.3×10^{-4}
 - ☒ 5.3×10^{-5}
 - ☐ 5.3×10^{-6}

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 36

Multiple Choice

0 points

Question

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

- Answer
- ✓
- 2
- 3
- 4
- 9
- 13

◀ Add Question Here

ModifyRemove

Question 37

Multiple Choice

0 points

Question

How many significant figures are there in 1.3070 g?

Answer

- ✓
- 6
- 5
- 4
- 3
- 2

◀ Add Question Here

ModifyRemove

Question 38

Multiple Choice

0 points

Question

Express the fraction 1/23 as a decimal to 4 significant figures.

Answer

- ✓
- 0.0434
- 0.0435
- 0.04347
- 0.04348
- 0.04350

◀ Add Question Here

ModifyRemove

Question 39

Multiple Choice

0 points

Question

Express the fraction 1/51 in scientific notation to 3 significant figures.

Answer

- ✓
- $2 \times 10^{-2.00}$
- $2.0 \times 10^{-2.00}$
- 1.96×10^{-2}
- 1.97×10^{-2}
- 2.00×10^{-2}

◀ Add Question Here

ModifyRemove

Question 40

Multiple Choice

0 points

Question

After carrying out the following operations, how many significant figures are appropriate to show in the result?
(13.7 + 0.027) ÷ 8.221

Answer

- ✓
- 1
- 2
- 3
- 4
- 5

◀ Add Question Here

ModifyRemove

Question 41

Multiple Choice

0 points

Question

How many significant figures does the result of the following operation contain?
8.52010 × 7.9

Answer

- ✓
- 2
- 3
- 4
- 5
- 6

◀ Add Question Here

ModifyRemove

Question 42

Multiple Choice

0 points

Question

How many significant figures does the result of the following sum contain?
8.5201 + 1.93

Answer

- ✓
- 1
- 2
- 3
- 4
- 5

◀ Add Question Here

ModifyRemove

Question 43

Multiple Choice

0 points

Question

How many significant figures does the result of the following sum contain?
8.520 + 2.7

- Answer
- ✓
- 1
- 2
- 3
- 4
- 5

◀ Add Question Here

ModifyRemove

Question 44

Multiple Choice

0 points

Question

How many significant figures does the difference $218.7201 - 218.63$ contain?

- Answer
- ✓
- 1
- 2
- 3
- 5
- 7

◀ Add Question Here

ModifyRemove

Question 45

Multiple Choice

0 points

Question

Do the indicated arithmetic and give the answer to the correct number of significant figures.

$(1.5 \times 10^{-4} \times 61.3) + 2.01 =$

- Answer
- ✓
- 2.0192
- 2.0
- 2.019
- 2.02
- 2.019195

◀ Add Question Here

ModifyRemove

Question 46

Multiple Choice

0 points

Question

When 7.02°C is converted to the Fahrenheit scale, how many significant figures are there in the $^{\circ}\text{F}$ result?

- Answer
- ✓
- 1
- 2
- 3
- 4
- 5

◀ Add Question Here

ModifyRemove

Question 47

Multiple Choice

0 points

Question

How many cubic inches are in 1.00 liter?

- Answer
- ✓
- 61.0 in³
- 155 in³
- 394 in³
- 1.64×10^4 in³
- none of them

◀ Add Question Here

ModifyRemove

Question 48

Multiple Choice

0 points

Question

Convert 500. milliliters to quarts. (1L = 1.06 qt)

- Answer
- ✓
- 1.88 qt
- 0.472 qt
- 0.528 qt
- 4.72×10^5 qt
- 5.28×10^5 qt

◀ Add Question Here

ModifyRemove

Question 49

Multiple Choice

0 points

Question

A US barrel is 4.21 cubic feet. Express this volume in liters.

- Answer
- ✓
- 3.99×10^{-5} L
- 1.99×10^{-2} L
- 19.9 L
- 105 L
- 119 L

◀ Add Question Here

ModifyRemove

Question 50

Multiple Choice

0 points

Question

A barrel of oil contains 42.0 gallons. How many liters is this? (1L = 1.06 qt)

- Answer
- 9.9 L
- 11 L
- 142 L
- ✔

158 L
- 178 L

◀ Add Question Here

ModifyRemove

Question 51

Multiple Choice

0 points

- Question
- The average distance from Earth to the sun is 9.3×10^7 miles. How many kilometers is this?
- Answer
- ✔

1.5×10^8 km
- 1.5×10^5 km
- 5.6×10^7 km
- 1.7×10^{-8} km
- 1.5×10^{11} km

◀ Add Question Here

ModifyRemove

Question 52

Multiple Choice

0 points

- Question
- What is the area, in square centimeters, of an 8.5 inch by 11 inch sheet of paper?
- Answer
- 94 cm²
- 240 cm²
- 420 cm²
- ✔

6.0×10^2 cm²
- 1.2×10^4 cm²

◀ Add Question Here

ModifyRemove

Question 53

Multiple Choice

0 points

- Question
- Suppose a house has a floor area of 2,250 square feet. What is this area in units of square centimeters?
- Answer
- 2.42 cm²
- ✔

2.09×10^6 cm²
- 5.02×10^4 cm²
- 6.86×10^4 cm²
- 101 cm²

◀ Add Question Here

ModifyRemove

Question 54

Multiple Choice

0 points

- Question
- What is the volume, in cubic inches, of a brick that is 4.0 in \times 2.7 in \times 8.0 in?
- Answer
- 15 in³
- 51 in³
- 78 in³
- ✔

87 in³
- 150 in³

◀ Add Question Here

ModifyRemove

Question 55

Multiple Choice

0 points

- Question
- What is the volume, in cubic centimeters, of a brick that is 4.0 in \times 2.7 in \times 8.0 in?
- Answer
- 5.3 cm³
- 53 cm³
- 87 cm³
- 4.8×10^2 cm³
- ✔

1.4×10^3 cm³

◀ Add Question Here

ModifyRemove

Question 56

Multiple Choice

0 points

- Question
- How many square kilometers are equivalent to 28.5 cm²?
- Answer
- ✔

2.85×10^{-9} km²
- 2.85×10^{-6} km²
- 285 km²
- 2.85×10^{-4} km²
- none of these

◀ Add Question Here

ModifyRemove

Question 57

Multiple Choice

0 points

Question
How many cubic centimeters are there in exactly one cubic meter?

Answer

☐

$1 \times 10^{-6} \text{ cm}^3$

☐

$1 \times 10^{-3} \text{ cm}^3$

☐


$1 \times 10^{-2} \text{ cm}^3$

☐

$1 \times 10^4 \text{ cm}^3$

☒

$1 \times 10^6 \text{ cm}^3$

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 58

Multiple Choice

0 points

Question
If a car has an EPA mileage rating of 30 miles per gallon, what is this rating in kilometers per liter? (1 L = 1.06 qt)

Answer

☐

200 km/L

☐

180 km/L

☐


70 km/L

☒

13 km/L

☐

11 km/L

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 59

Multiple Choice

0 points

Question
If the price of gasoline is \$2.99 per U.S. gallon, what is the cost per liter? (1 L = 1.06 qt)

Answer

☐

\$0.30/L

☒

\$0.79/L

☐


\$1.27/L

☐

\$2.99/L

☐

\$12.66/L

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 60

Multiple Choice

0 points

Question
An aluminum beverage can contains 12.0 fluid ounces of liquid. Express this volume in liters. (1 fl oz = 29.6 mL)

Answer

☐

$4.07 \times 10^{-2} \text{ L}$

☒

0.355 L

☐


0.407 L

☐

2.46 L

☐

$3.55 \times 10^2 \text{ L}$

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 61

Multiple Choice

0 points

Question
 157.2×10^6 troy oz of silver were used in the United States in 1980. How many gigagrams is this? (1 troy oz = 31.1 g)

Answer

☐

$4.89 \times 10^9 \text{ Gg}$

☒

4.89 Gg

☐


$5.05 \times 10^{-9} \text{ Gg}$

☐

3.12 Gg

☐

$5.05 \times 10^{-3} \text{ Gg}$

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 62

Multiple Choice

0 points

Question
A piece of metal with a mass of 611 g is placed into a graduated cylinder that contains 25.1 mL of water, raising the water level to 56.7 mL. What is the density of the metal?

Answer

☐

2.70 g/cm^3

☐

7.13 g/cm^3

☐


8.96 g/cm^3

☐

10.5 g/cm^3

☒

19.3 g/cm^3

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 63

Multiple Choice

0 points

Question
A piece of a metal alloy with a mass of 114 g was placed into a graduated cylinder that contained 25.0 mL of water, raising the water level to 42.5 mL. What is the density of the metal?

Answer

☐

0.154 g/cm^3

☐

0.592 g/cm^3

☐


2.68 g/cm^3

☒

6.51 g/cm^3

☐

7.25 g/cm^3

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 64

Multiple Choice

0 points

Question

A block of iron has a mass of 826 g. What is the mass of a block of magnesium that has the same volume as the block of iron? The following densities at 25°C are provided: magnesium, 1.7 g/cm³; graphite, 1.8 g/cm³; iron, 7.9 g/cm³.

- Answer
- ☐

1,400 g
- ☐
- 3,800 g

☐

☒

180 g☐

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 65

Multiple Choice

0 points

Question

A block of iron has a mass of 483 g. What is the mass of a block of graphite that has the same volume as the block of iron? The following densities at 25°C are provided: magnesium, 1.7 g/cm³; graphite, 1.8 g/cm³; iron, 7.9 g/cm³.

- Answer
- ☒

110 g
- ☐
- 2120 g

☐☐☐

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 66

Multiple Choice

0 points

Question

Calculate the mass of the air contained in a room that measures 2.50 m × 5.50 m × 3.00 m (density of air = 1.29 g/dm³ at 25°C).

- Answer
- ☐
- 3.13 × 10
- ^{−5}
- g

☐

☒

53.2 kg☐☐

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 67

Multiple Choice

0 points

Question

The density of lead is 11.4 g/cm³ at 25°C. Calculate the volume occupied by 25.0 g of lead.

- Answer
- ☒

2.19 cm³
- ☐
- 0.456 cm
- ³

☐☐☐

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 68

Multiple Choice

0 points

Question

Iron has a density of 7.86 g/cm³. The volume occupied by 55.85 g of iron is

- Answer
- ☐
- 0.141 cm
- ³
- .

☒

7.11 cm³.☐☐☐

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 69

Multiple Choice

0 points

Question

Iridium is essentially tied with osmium for the distinction of being called the “densest element” with a density of 22.5 g/cm³. What would be the mass in pounds of a 1.0 ft × 1.0 ft × 1.0 ft cube of iridium? (1 lb = 453.6 g)

- Answer
- ☐
- 1.5 lb

☐☐

☒

1.4 × 10³ lb☐

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 70

Multiple Choice

0 points

Question

Bromine is a red liquid at 25°C. Its density is 3.12 g/cm³. What is the volume of 28.1 g of liquid bromine?

- Answer
- ☐
- 87.7 cm
- ³

☐

☒

9.01 cm³☐☐

 [Add Question Here](#)

Question 71

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

The Hope diamond weighs 44.0 carats. Determine the volume occupied by the diamond, given that its density is 3.5 g/cm³ at 20°C, and that 1 carat = 0.200 g.

Answer

✓

2.5 cm³

0.40 cm³

0.016 cm³

63 cm³

150 cm³

◀

[Add Question Here](#)

Question 72

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

What is the volume of a 2.5 g block of metal if its density is 4.75 g/cm³?

Answer

✓

0.53 cm³

1.9 cm³

2.5 cm³

4.75 cm³

11.9 cm³

◀

[Add Question Here](#)

Question 73

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

The density of mercury is 13.6 g/cm³. What is the mass in pounds of 1.0 gallons of mercury? (1 lb = 453.6 g; 1 gal = 3.785 L)

Answer

0.11 lb

30. lb

51 lb

83 lb

✓

110 lb

◀

[Add Question Here](#)

Question 74

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

The density of mercury is 13.6 g/cm³. What volume (in quarts) is occupied by 100. g of Hg? (1 L = 1.06 qt)

Answer

144 qt

7.35 qt

7.79 qt

✓

7.79 × 10^{−3} qt

1.44 × 10^{−4} qt

◀

[Add Question Here](#)

Question 75

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

The "escape velocity" from Earth (the speed required to escape Earth's gravity) is 2.5 × 10⁴ miles per hour. What is this speed in m/s? (1 mile = 1609 m)

Answer

4.2 × 10^{−3} m/s

6.9 m/s

4.2 × 10² m/s

✓

1.1 × 10⁴ m/s

4.0 × 10⁷ m/s

◀

[Add Question Here](#)

Question 76

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

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

Answer

✓

40 mi/h

2.0 × 10⁵ mm/min

40 km/h

0.74 km/min

400 m/min

◀

[Add Question Here](#)

Question 77

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

Iron has a density of 7.87 g/cm³. What mass of iron would be required to cover a football playing surface of 120 yds × 60 yds to a depth of 1.0 mm? (1 inch = 2.54 cm; 1 lb = 453.6 g)

Answer

6.4 × 10³ lb

6.4 × 10⁴ lb

✓

1.0 × 10⁵ lb

4.7 × 10⁷ lb

$4.7 \times 10^8 \text{ lb}$

◀ [Add Question Here](#)

Question 78

Multiple Choice

0 points

[Modify](#) [Remove](#)

Question

Americans combined drive about 4.0×10^9 miles per day and their vehicles get an average of 20 miles per gallon of fuel used. For each 1 kg of gasoline that is burned, about 3.0 kg of carbon dioxide are produced. How many kilograms of CO₂ are emitted into the atmosphere each day by cars in the U.S.? One gallon of gas weighs about 3.5 kg.

Answer

✓

2.1 × 10⁹ kg

8.4 × 10¹¹ kg

1.7 × 10⁸ kg

93 kg

none of these

◀ [Add Question Here](#)

Question 79

Multiple Choice

0 points

[Modify](#) [Remove](#)

Question

How many cubic centimeters of an ore containing only 0.22% gold (by mass) must be processed to obtain \$100 worth of gold? The density of the ore is 8.0 g/cm³ and the price of gold is \$818 per troy ounce. (14.6 troy oz = 1.0 ordinary pound, called an avoirdupois pound; 1 lb = 454 g)

Answer

✓

0.48 cm³

220 cm³

1.4 × 10³ cm³

1.7 × 10³ cm³

1.8 × 10⁴ cm³

◀ [Add Question Here](#)

Question 80

Multiple Choice

0 points

[Modify](#) [Remove](#)

Question

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

Answer

✓

4.4×10^{-2} min

1.6×10^5 min

4.0×10^{15} min

44 min

2.6 min

◀ [Add Question Here](#)

Question 81

Multiple Choice

0 points

[Modify](#) [Remove](#)

Question

Radio waves travel at the speed of light, which is 3.00×10^8 m/s. How many kilometers will radio messages travel in exactly one year?

Answer

✓

9.46×10^{15} km

7.30×10^8 km

7.10×10^{10} km

9.46×10^{12} km

3.33×10^{-3} km

◀ [Add Question Here](#)

Question 82

Multiple Choice

0 points

[Modify](#) [Remove](#)

Question

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

Answer

✓

2.0×10^{-10} mm/mo.

6.6×10^{-6} mm/mo.

4.2 mm/mo.

9.5 mm/mo.

51 mm/mo.

◀ [Add Question Here](#)

Question 83

Multiple Choice

0 points

[Modify](#) [Remove](#)

Question

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

Answer

✓

0.10 g

0.14 g

1.2 g

10 g

14 g

◀ [Add Question Here](#)

Question 84

Multiple Choice

0 points

[Modify](#) [Remove](#)

Question

The radius of the Earth is approximately 6370 km. If one could dig down straight towards the center of the Earth, one would find that the outermost 2890 km (the crust and the mantle) has an average density of about 4.5 g/cm³. Farther down is the core. If the average density of the Earth is 5.5 g/cm³, what is the average density of the Earth's core? (Recall that the volume of a sphere is given by $V = (4/3)\pi r^3$.)

Answer

- ☒ 11. g/cm³
- ☐ 57. g/cm³
- ☐ 6.2 g/cm³
- ☐ 1.9 g/cm³
- ☐ not enough data is provided

 [Add Question Here](#)

Question 85

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

The radius of the Earth is approximately 6370 km. If one could dig down straight towards the center of the Earth, one would find that the innermost 3480 km (the core) has an average density of about 11. g/cm³. Above that are the mantle and crust. If the average density of the Earth is 5.5 g/cm³, what is the average density of the Earth's mantle and crust? (Recall that the volume of a sphere is given by $V = (4/3)\pi r^3$.)

Answer

- ☒ 57. g/cm³
- ☒ 4.5 g/cm³
- ☐ 8.7 g/cm³
- ☐ 5.3 g/cm³
- ☐ not enough data is provided

 [Add Question Here](#)

Question 86

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

An object sinks when placed in water if the mass of the object is greater than the mass of the water that the object displaces. Which of the following objects will sink when dropped into a bucket of water?

(Given: density of water = 1.00 g/cm³)

Answer

- ☐ a cube of aluminum (density = 2.702 g/cm³)
- ☐ a diamond (density = 3.51 g/cm³)
- ☐ a chunk of dry ice (density = 1.56 g/cm³)
- ☒ a chunk of sodium (density = 0.91 g/cm³)
- ☐ a sphere of magnesium (density = 1.74 g/cm³)

 [Add Question Here](#)

Question 87

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

An object will float at the surface of a liquid if the mass of the object is less than the mass of the liquid that it displaces. A spherical vessel (diameter = 2.00 cm) when empty has a mass of 2.00 g. What is the greatest volume of water that can be placed in the vessel and still have the vessel float at the surface of water?

(Given: density of water = 1.00 g/cm³)

Answer

- ☐ 2.00 mL
- ☐ 31.5 mL
- ☒ 2.19 mL
- ☐ 4.19 mL
- ☐ the vessel will not float even when empty

 [Add Question Here](#)

Question 88

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

An object will float at the surface of a liquid if the mass of the object is less than the mass of the liquid that it displaces. A spherical vessel (diameter = 5.00 cm) when empty has a mass of 12.00 g. What is the greatest volume of water that can be placed in the vessel and still have the vessel float at the surface of benzene?

(Given: density of water = 1.00 g/cm³; density of benzene = 0.879 g/cm³)

Answer

- ☒ 45.5 mL
- ☐ 448 mL
- ☐ 53.4 mL
- ☐ 57.5 mL
- ☐ 65.4 mL

 [Add Question Here](#)

Question 89

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

One of the common intravenous fluids, called physiological saline, is a homogeneous mixture of NaCl in water. In this mixture, 0.89% of the mass is contributed by the NaCl. What mass of NaCl is found in 450. mL of physiological saline?

(Given: density of physiological saline = 1.005 g/cm³)

Answer

- ☒ 2.0 g
- ☒ 4.0 g
- ☐ 5.1 g
- ☐ 508 g
- ☐ 400 g

 [Add Question Here](#)

Question 90

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

A special flask used in the determination of densities, called a pycnometer, has a mass of 16.3179 g when empty, and it has a mass of 48.0250 g when filled with water at 20.0°C. When this same pycnometer is filled with ethyl alcohol at 20.0°C, it is found to have a mass of 41.3934 g. Find the density of ethyl alcohol at 20.0°C.
(Given: at 20.0°C, the density of water is 0.9982 g/mL)

Answer

- ☒ 0.7894 g/mL
- ☐ 0.7923 g/mL
- ☐ 0.7908 g/mL
- ☐ 1.303 g/mL
- ☐ 0.7674 g/mL

 [Add Question Here](#)

Question 91

Multiple Choice

0 points

[Modify](#)

[Remove](#)

Question

A particular flask has a mass of 17.4916 g when empty. When filled with ordinary water at 20.0°C (density = 0.9982 g/mL), the mass of the flask is now 43.9616 g. The density of so-called “heavy water” at 20.0°C is 1.1053 g/mL. What will the mass of the flask be when filled with heavy water at 20.0°C?

Answer

- ☐ 29.2573 g
- ☒ 46.8016 g
- ☐ 46.7489 g
- ☐ 29.3100 g
- ☐ 43.9140 g

 [Add Question Here](#)

Question 92

Essay

0 points

[Modify](#)

[Remove](#)

Question

Define *matter*.

Answer Matter is anything that occupies space and has mass.

 [Add Question Here](#)

Question 93

Essay

0 points

[Modify](#)

[Remove](#)

Question

What are the three states of matter?

Answer Solid, liquid, and gas

 [Add Question Here](#)

Question 94

Essay

0 points

[Modify](#)

[Remove](#)

Question

What are the common names for the three states of the compound water?

Answer Ice, water, and steam

 [Add Question Here](#)

Question 95

Essay

0 points

[Modify](#)

[Remove](#)

Question

Define *pure substance*.

Answer Something that has a definite composition

 [Add Question Here](#)

Question 96

Essay

0 points

[Modify](#)

[Remove](#)

Question

Give three examples of pure substances.

Answer (Answers will vary.) Gold, sugar, oxygen, argon, water, methane

 [Add Question Here](#)

Question 97

Essay

0 points

[Modify](#)

[Remove](#)

Question

Define *mixture*.

Answer A mixture is a combination of two or more substances in which the substances retain their distinct identities.

 [Add Question Here](#)

Question 98

Essay

0 points

[Modify](#)

[Remove](#)

Question

Name two types of mixtures.

Answer Homogeneous mixture and heterogeneous mixture

 [Add Question Here](#)

Question 99

Essay

0 points

[Modify](#)

[Remove](#)

Question

Give three examples of mixtures.

Answer (Answers will vary.) Air, gasoline, sea water, salt and sand, iron filings and sand

 [Add Question Here](#)

Question 100

Essay

0 points

[Modify](#)

[Remove](#)

Question

Define *element*.

Answer An element is a substance that cannot be separated into simpler substances by chemical means.

 [Add Question Here](#)

Question 101

Essay

0 points

[Modify](#)


[Remove](#)

	<div><div>Question</div><div>Define <i>compound</i>.</div><div>Answer A compound is a substance composed of atoms of two or more elements chemically united in fixed proportions.</div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 102	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Give examples of three physical properties.</div><div>Answer (Answers will vary.) Melting point, boiling point, density, color</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 103	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Give an example of an <i>extensive</i> property.</div><div>Answer (Answers will vary.) Mass, length, and volume</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 104	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Give an example of an <i>intensive</i> property.</div><div>Answer (Answers will vary.) Temperature, density, melting point, boiling point</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 105	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Identify the following as a <i>physical</i> or <i>chemical</i> change: Bacteria convert milk to yogurt.</div><div>AnswerChemical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 106	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Identify the following as a <i>physical</i> or <i>chemical</i> change: Water is broken down into hydrogen and oxygen.</div><div>AnswerChemical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 107	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Identify the following as a <i>physical</i> or <i>chemical</i> change: Formation of snowflakes.</div><div>AnswerPhysical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 108	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Identify the following as a <i>physical</i> or <i>chemical</i> change: Rusting of a piece of iron.</div><div>AnswerChemical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 109	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Identify the following as a <i>physical</i> or <i>chemical</i> change: Ripening of fruit.</div><div>AnswerChemical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 110	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Identify the following as a <i>physical</i> or <i>chemical</i> change: Fashioning a table leg from a piece of wood.</div><div>AnswerPhysical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 111	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Identify the following as a <i>physical</i> or <i>chemical</i> change: Fermenting grapes.</div><div>AnswerChemical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 112	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Classify the following as a <i>physical</i> or <i>chemical</i> change: Antifreeze boils out of a radiator.</div><div>AnswerPhysical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 113	<div><div>Essay</div><div>0 points</div><div><div>Question</div><div>Classify the following as a <i>physical</i> or <i>chemical</i> change: Food spoils.</div><div>AnswerChemical</div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>
Question 114	<div><div>Essay</div><div>0 points</div><div></div></div>		<div><div><div></div><div>Add Question Here</div></div><div><div>Modify</div><div>Remove</div></div></div>

	<div><div>Question</div><div>Classify the following as a <i>physical</i> or <i>chemical</i> change: Alcohol evaporates.</div><div>AnswerPhysical</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 115	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as either a <i>physical</i> or a <i>chemical</i> property: Ice melts at 0°C.</div><div>AnswerPhysical</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 116	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as either a <i>physical</i> or a <i>chemical</i> property: Newspaper burns.</div><div>AnswerChemical</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 117	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as either a <i>physical</i> or a <i>chemical</i> property: The vitamin content of foods in contact with air falls.</div><div>AnswerChemical</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 118	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as a <i>pure substance</i> or a <i>mixture</i>: Ice cream.</div><div>AnswerMixture</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 119	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as a <i>pure substance</i> or a <i>mixture</i>: Bread.</div><div>AnswerMixture</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 120	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as a <i>pure substance</i> or a <i>mixture</i>: Seven-Up®.</div><div>AnswerMixture</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 121	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as an <i>element</i>, a <i>compound</i>, or a <i>mixture</i>: Air.</div><div>AnswerMixture</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 122	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as an <i>element</i>, a <i>compound</i>, or a <i>mixture</i>: Table salt (non-iodized).</div><div>AnswerCompound</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 123	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as an <i>element</i>, a <i>compound</i>, or a <i>mixture</i>: Chicken broth.</div><div>AnswerMixture</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 124	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as an <i>element</i>, a <i>compound</i>, or a <i>mixture</i>: Oxygen gas.</div><div>AnswerElement</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 125	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as a <i>mixture</i>, a <i>compound</i>, or an <i>element</i>: Brewed coffee, ready to drink.</div><div>AnswerMixture</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 126	<div><div>Essay</div><div>0 points</div></div> <div><div>Question</div><div>Classify the following as a <i>mixture</i>, a <i>compound</i>, or an <i>element</i>: Sugar to put in a cup of coffee.</div><div>AnswerCompound</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>
Question 127	<div><div>Essay</div><div>0 points</div></div>		<div><div>◀Add Question Here</div><div><div>Modify</div><div>Remove</div></div></div>

Question
Classify the following as a *mixture*, a *compound*, or an *element*: Orange juice.

Answer Mixture

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 128 **Essay** **0 points**

Question
A pure yellow crystalline substance, when heated in a vacuum, releases a greenish gas and a red powder. Is the original yellow crystalline substance a compound or element?

Answer Compound

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 129 **Essay** **0 points**

Question
In the process of fixing breakfast you:
1. break open the egg
2. fry it
3. cut the fried egg into pieces
4. toast a slice of bread
5. cut the toast in half
Which of these are chemical processes?

Answer 2 (frying the egg) and 4 (toasting the bread)


 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 130 **Essay** **0 points**

Question
An organic liquid has a density of 0.8 g/cm³. What is the mass of a 42.0 mL sample of this liquid?

Answer 30 g


 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 131 **Essay** **0 points**

Question
What is the density of copper if 11.8 cm³ of copper has a mass of 105.2 g?

Answer 8.92 g/cm³


 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 132 **Essay** **0 points**

Question
An automobile engine has a piston displacement of 1,600 cm³. Express this volume in liters.

Answer 1.6 L


 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 133 **Essay** **0 points**

Question
An automobile engine has a piston displacement of 1,600 cm³. Express this volume in cubic inches. (1 in = 2.54 cm)

Answer 98 in³

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 134 **Essay** **0 points**

Question
An investor paid market price for a chunk of gold that he was told was pure. The gold bar had a mass of 440 g, but was slightly irregular so an exact volume could not be calculated. The investor filled a large graduated cylinder with water, immersed the chunk of gold, and observed an increase in the apparent volume of material in the graduated cylinder of 25.0 mL. Pure gold has a density of 19.3 g/cm³. Did the investor get her money's worth? Why or why not?

Answer No. The investor's metal density is 17.6 g/cm³, thus the bar must not be pure gold.


 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 135 **Essay** **0 points**

Question
An American engineer who had been transferred to Europe was asked to build bridge pilings exactly as he had in the United States. Each piling required 20.0 cubic yards of concrete in the United States. How many cubic meters of concrete are required for each piling? Given: 1 yd = 0.914 m.

Answer 15.3 m³


 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 136 **Essay** **0 points**

Question
A soft drink costs 75 cents for a 12-oz can. A two-liter bottle costs \$1.25. In which form is the soft drink more expensive? How much more expensive? (1.0 L = 1.057 qt, 1 qt = 32 oz)

Answer The two-liter bottle is the better value. The can is over three times more expensive by volume.

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 137 **Essay** **0 points**

Question
A person weighs 150 lb, and the correct dosage of a drug is given as 1.50 mg per kilogram of body weight. How many milligrams of the drug should be given? (2.20 lb = 1 kg)

Answer 102 mg

 [Add Question Here](#)

[Modify](#) [Remove](#)

Question 138 **Essay** **0 points**

Question

You just measured a block of wood and obtained the following information:

mass = 55.120 g

length = 8.5 cm

height = 4.3 cm

width = 3.3 cm

Determine the volume and density of the wood block.

Answer Volume of the wood block = 120 cm³; density of the wood block = 0.46 g/cm³.

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 139

Essay

0 points

Question

You just measured a metal cylinder and obtained the following information:

mass = 3.543 g

diameter = 0.53 cm

height = 4.4 cm

Determine the volume (V) and density of the cylinder. ($V=\pi r^2 h$, where r = radius, h = height, $\pi = 3.14$)

Answer Volume of the cylinder = 0.97 cm³; density of the cylinder = 3.7 g/cm³.

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 140

Essay

0 points

Question

You just measured a sugar cube and obtained the following information:

mass = 3.48 g

height = length = width = 1.3 cm

Determine the volume and density of the cube. Suppose the sugar cube was added to a cup of water. Before it dissolves, will the sugar cube float or sink to the bottom?

Answer Volume of the sugar cube = 2.2 cm³; density of the sugar cube = 1.6 g/cm³. Before dissolving, the sugar cube will sink in a cup of water.

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 141

Essay

0 points

Question

An archeologist finds a huge monolith in the desert. In order to estimate the weight of this object; he estimates the dimensions of the monolith and removes some chips from the rock with his hammer, collecting the following data:

dimensions of the monolith = 1.5 m × 5.2 m × 13 m

mass of rock chips = 41.73 g

volume of rock chips = 15.2 cm³

Determine the mass of the monolith in pounds, assuming it is of uniform composition. (1 lb = 453.6 g)

Answer 6.1 × 10⁵ lb

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 142

Essay

0 points

Question

What is the density of a salt solution if 50.0 mL of the solution has a mass of 57.0 g?

Answer 1.14 g/mL

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 143

Essay

0 points

Question

An excavator is preparing to dig a basement for a new house. Part of his contract reads that he must dispose of all the dirt he removes while digging the basement in an EPA approved landfill. He will dig a hole that is 40 feet wide by 50 feet long and 7.5 feet deep. He first uses his shovel and scoops up 1.00 kg of dirt, and then determines that the dirt has a volume of 600 cm³. The excavator knows that his dump truck can only carry 8,000 kg of dirt. How many dump-truck loads will it take to haul the dirt away?

Answer 89 dump-truck loads

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 144

Essay

0 points

Question

How many significant figures does the number 30.340 contain?

Answer 5

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 145

Essay

0 points

Question

How many significant figures does the number 0.00721 contain?

Answer 3

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 146

Essay

0 points

Question

The number 9.64870 × 10⁵ contains how many significant figures?

Answer 6

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 147

Essay

0 points

Question

What will be the cost of gasoline for a 3,700-mile trip in a car that gets 23 miles per gallon, if the average price of gas is \$2.90 per gallon?

Answer \$470

 [Add Question Here](#)

[Modify](#)

[Remove](#)

Question 148

Essay

0 points

Question

What will be the cost of gasoline for a 4,700-mile automobile trip if the car gets 41 miles per gallon, and the average price of gas is \$2.79 per gallon?

Answer

\$320

◀ Add Question Here

Modify

Remove

Question 149

Essay

0 points

Question

The volume of a sphere is given by $V = (4/3)\pi r^3$ where r is the radius. What is the mass of a magnesium sphere with a radius of 0.80 cm? (The density of magnesium is 1.74 g/cm³.)

Answer

3.7 g

◀ Add Question Here

Modify

Remove

Question 150

Essay

0 points

Question

The density of lead is 11.4 g/cm³. Express this density in pounds per cubic foot.

Answer

711 lbs/ft³

◀ Add Question Here

Modify

Remove

Question 151

Essay

0 points

Question

What is the mass of 1.00 dm³ of mercury? The density of mercury is 13.6 g/cm³.

Answer

1.36 × 10⁴ g

◀ Add Question Here

Modify

Remove

Question 152

True/False

0 points

Question

The weight of a body varies according to the force of gravity exerted on the body.

Answer

✔ True
False

◀ Add Question Here

Modify

Remove

Question 153

True/False

0 points

Question

The mass of a body varies according to the force of gravity exerted on the body.

Answer

True
✔ False

◀ Add Question Here

Modify

Remove

Question 154

True/False

0 points

Question

The SI base unit of length is the centimeter.

Answer

True
✔ False

◀ Add Question Here

Modify

Remove

Question 155

True/False

0 points

Question

Mass, length, and volume are extensive properties, but density is an intensive property.

Answer

✔ True
False

◀ Add Question Here

Modify

Remove

Question 156

True/False

0 points

Question

20°C is colder than 40°F.

Answer

True
✔ False

◀ Add Question Here

Modify

Remove

Question 157

True/False

0 points

Question

16 megagrams (Mg) is equal to 1.6 × 10⁷ g.

Answer

✔ True
False

◀ Add Question Here

Modify

Remove

Question 158

True/False

0 points

Question

The conversion of water into steam is an example of a *chemical* change.

Answer

True
✔ False

◀ Add Question Here

OK