**Quiz 2A**

# Directions: Answer each of the following questions. Be sure to use complete sentences where appropriate. For full credit be sure to show all of your work. Where appropriate answers should be boxed for clarity, written to the correct number of significant figures, and, include the proper units.

1. The temperature of the Moon at night is -183 °C, what are the (3 points)
	1. certain digit(s)? \_\_\_\_\_1 and 8
	2. estimated digit(s)? \_\_\_\_\_3
2. Complete the following conversions (4 points):
	1. 3.551 kg to grams

$$3.551 kg×\frac{1000 g}{1 kg}=3551 g$$

* 1. 8545 mL to liters

$$8545 mL×\frac{1 L}{1000 mL}=8.545 L$$

1. The area of San Diego County is approximately 2.9 million acres. How many square miles is this? (1 acre = 43,560 ft2; 1 mi = 5280 ft) (6 points).

$$2,900,000 acres×\frac{43560 ft^{2}}{1 acre}×\left(\frac{1 mi}{5280 ft}\right)^{2}=4531 mi^{2}≈4.5×10^{3} mi^{2}$$

1. Are the following statements true or false (4 points)?

|  |  |  |
| --- | --- | --- |
|  | The salt solution has a density between 1.00 g/mL and 1.50 g/mL.   | True |
|  | Your percent error may not have a positive value.  | False |
|  | To determine the volume of water in a graduated cylinder, you should read the top of the meniscus.  | False  |
|  | Graphs are plotted dependent vs. independent variable.  | True  |

1. What are three properties of a solid (3 points)?

Answers may vary.

Not able to flow

Fixed shape

Fixed volume

Not really compressible

Atoms/molecules are close together

Oscillate about a fixed point

Form homogenous mixtures

Strong attractive forces

High density

Low energy

**Quiz 2B**

# Directions: Answer each of the following questions. Be sure to use complete sentences where appropriate. For full credit be sure to show all of your work. Where appropriate answers should be boxed for clarity, written to the correct number of significant figures, and, include the proper units.

1. Are the following statements true or false (4 points)?

|  |  |  |
| --- | --- | --- |
| a. | The salt solution has a density between 1.00 g/mL and 1.50 g/mL.   | True |
| b. | Your percent error may not have a positive value.  | False |
| c. | To determine the volume of water in a graduated cylinder, you should read the bottom of the meniscus.  | True |
| d.  | Graphs are plotted independent vs. dependent variable.  | False  |

1. The temperature of the Mars at night is -195 °C, what are the (3 points)
	1. certain digit(s)? \_\_\_\_\_1 and 9
	2. estimated digit(s)? \_\_\_\_\_5
2. Complete the following conversions (4 points):
	1. 0.0197 L to milliliters

$$0.0197 L×\frac{1000 mL}{1 L}=19.7 mL$$

* 1. 143 cm to meters

$$143 cm×\frac{1 m}{100 cm}=1.43 m$$

1. Total U.S. farmland occupies 954 million acres. How many square miles is this? (1 acre = 43,560 ft2; 1 mi = 5280 ft) (6 points).

$$954,000,000 acres×\frac{43560 ft^{2}}{1 acre}×\left(\frac{1 mi}{5280 ft}\right)^{2}=1491000 mi^{2}≈1.49×10^{6} mi^{2}$$

1. State three properties of a liquid (3 points).

Answers may vary.

Able to flow

Variable shape

Fixed volume

Not really compressible

Strong attractive forces

Moderate density

Low-moderate energy

Atoms/molecules are close together, but free to move beneath the surface