

## HW 1.3

Started: Aug 19 at 3:26pm

### Quiz Instructions

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#### Question 1

1 pts

Check each statement below that is **true**.

- ☐ Democritus believed that all matter was made of atomos.
- ☐ Democritus believed that there was only one kind of atomos.
- ☐ Democritus believed that the differences in taste, color, etc was due to the different combinations of atomos.
- ☐ Most early Greek scholars thought that the world was "ever-changing."

#### Question 2

1 pts

Match the person or group of people with their role in the development of chemistry.

tried to apply logic to the world around them

[ Choose ]

were primarily concerned with finding ways to turn common metal into gold

[ Choose ]

proposed the first scientific theory relating chemical changes to the structure, properties, and behavior of atoms

[ Choose ]

first suggested that all matter was made up of tiny, indivisible, solid object

[ Choose ]

#### Question 3

1 pts

Identify the law that explains the following observation: Carbon monoxide can be formed by reacting 12 grams of carbon with 16 grams of oxygen. To form carbon dioxide, however, 12 grams of carbon must react with 32 grams of oxygen.

Law of

#### Question 4

1 pts

Identify the law that explains the following observation: Carbon monoxide can be formed by reacting 12 grams of carbon with 16 grams of oxygen. It can also be formed by reacting 24 grams of carbon with 32 grams of oxygen.

Law of

## Question 5

1 pts

Identify the law that explains the following observation: 28 grams of carbon monoxide are formed when 12 grams of carbon reacts with 16 grams of oxygen.

Law of

## Question 6

1 pts

Identify the law that explains the following observations: When 12 grams of carbon react with 4 grams of hydrogen, they produce methane, and there is no carbon or hydrogen left over at the end of the reaction. If, however, 11 grams of carbon react with 4 grams of hydrogen, there is hydrogen left over at the end of the reaction.

Law of

## Question 7

1 pts

Which of the following is **not** part of Dalton's atomic theory?

- ☐ During a nuclear reaction, atoms are split apart.
- ☐ All atoms of a specific element are the same.
- ☐ During a chemical reaction, atoms are rearranged.
- ☐ Matter is made of tiny particles called atoms.

## Question 8

2 pts

Consider the following data: 3.6 grams of boron react with 1.0 grams of hydrogen to give 4.6 grams of  $\text{BH}_3$ . How many grams of boron would react with 3.4 grams of hydrogen?

## Question 9

1 pts

Consider the following data: 12 grams of carbon and 4 grams of hydrogen react to give 16 grams of **compound A**. 24 grams of carbon and 6 grams of hydrogen react to give 30 grams of **compound B**. Are compound A and compound B the same? Why or Why not?

- ☐ Yes because they are both composed of carbon and hydrogen.
- ☐ Yes because the mass ratios of carbon to hydrogen are the same in both compounds.
- ☐ No, because compound A has half as much carbon as compound B.
- ☐ No because the ratio of masses of carbon to hydrogen is different for each compound.

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