

Correctly order the steps necessary to calculate the mass of product formed in a chemical reaction given the masses of all reactants

- 1) write down balanced chemical reaction.
- 2) calculate the number of moles of a reagents.
- 3) determining molar ratios - identify the number of moles of each reactant needed to form a certain number of moles of each product.
- 4) from number of moles of each product calculate mass of products using molar mass.

Answer : The order of steps necessary to calculate the mass of product formed in a chemical reaction given the masses of all reactants :

- (1) Determine the number of moles of each reactant by dividing its mass by its molar mass.
- (2) Identify the limiting reactant as the reactant that produces the least amount of product.
- (3) Determine the amount of product that could be formed from the limiting reactant using appropriate mole ratio.
- (4) Determine the mass, multiply the number of moles of product formed (from the limiting reactant) by the molar mass of the product.

For example :

If we are given that 10 grams of magnesium react with 6 grams of oxygen to give magnesium oxide then calculate the mass of product formed in a chemical reaction.

Solution :

Mass of Mg = 10 g

Mass of = 6 g

Molar mass of Mg = 24 g/mole

Molar mass of = 32 g/mole

Molar mass of MgO = 40 g/mole

First we have to calculate the moles of Mg and .

Now we have to calculate the limiting and excess reagent.

The balanced chemical reaction is,

From the balanced reaction we conclude that

As, 1 mole of react with 2 mole of

So, 0.1875 moles of react with moles of

From this we conclude that, is an excess reagent because the given moles are greater than the required moles and is a limiting reagent and it limits the formation of product.

Now we have to calculate the moles of

From the reaction, we conclude that

As, 1 mole of react to give 2 mole of

So, 0.1875 moles of react to give moles of

Now we have to calculate the mass of

Hence, the mass of product is 15 grams.

The Fifth Amendment to the Constitution provides defendants with which of the following protections? Select one: A. protects against unreasonable searches and seizures B. precludes a person from being tried twice for the same crime C. to receive a speed and public trial D. all of the choices are true of the Fifth Amendment

"Liberty may be endangered by the abuse of liberty, but also by the abuse of power."—James Madison Which of the following statements both relates to the quote above and supports it by stating how the concern is reflected in American constitutional government?

A.) For this reason, the supremacy clause names the federal government the final authority on government decisions.

B.) In this quote, power and liberty mean the same thing and so the power of officials is limited by frequent elections.

C.) Therefore, each branch of the central government will have the power to check the power of the other branches.

D.) A limited government is the only way to prevent such abuses, but the only limits are on state government power.

Ethology is the study of animal _____.

With which of the following colonial powers did the Native Americans have a mutual-gain relationship?

Using stoichiometry, determine the mass of powdered drink mix needed to make a 1.0 M solution of 100 mL from $C_{12}H_{22}O_{11}$

If a circle has a diameter of 12 units, what is the area of a semicircle

Suppose a triangle has sides a , b , and c , and that $a^2 + b^2 < c^2$. Let θ be the measure of the angle opposite the side of length c . Which of the following must be true? Check all that apply.

A. θ is an acute angle.

B. The triangle is not a right triangle.

C. $\cos \theta < 0$

D. The triangle is a right triangle.

When evaluating a source, which of the following is the most important thing you should ask yourself?

Which statement is NOT true of the need to belong? A. We are social animals with a need to belong.

B. With close, intimate relationships, we tend to be healthier.

C. Humans in only some cultures use ostracism to regulate behavior.

D. Happiness is feeling connected, free, and capable

Doing an assignment for french! please let me know if anything needs to be fixed :) Dans 10 ans, je crois que les téléphones cellulaires vont s'améliorer considérablement. La qualité de l'appareil sera la même qu'un appareil photo coûteux.

Les téléphones seront utilisés pour tout. Vous pourrez faire l'épicerie, payer vos factures, déposer des déclarations de revenus, assister à des réunions et bien plus encore. La technologie sera avancée.

Les appels téléphoniques dureront très longtemps car c'est une façon de parler à quelqu'un qui est à des centaines de milliers de miles de là. Les messages texte nous gardent en contact en quelques secondes. presque tout le monde textes, donc je crois que dans dix ans que le nombre ne fera qu'augmenter.

Why does the investigator in an experiment change only one variable

1. Which of the following is a biotic factor? A. sunlight B. Worms

C. water

D. climate

I think its B

True or False 1. Trabajar por una sociedad justa no es un tema esencial para los católicos

2. Las obras de misericordia corporales se basan en la parábola de Jesús acerca del juicio final

The nurse is caring for a patient who has just completed 2 weeks of iv antibiotics for a severe infection. the patient now has frequent loose watery stools and a low-grade temperature. what is the most likely cause of the patient's new symptoms?

Please Help!!!!!! Multicellular organisms have five levels of organization ranging from simplest to most complex. The simplest level is the cellular level. This is an image of one type of cell found in your body: a cheek cell. You are the most complex level: you are an organism. List the five levels of organization, from simplest to most complex. Describe each level with one or two sentences. Give an example at each level.

Which answer best summarizes the events from the poem contained in the following lines? "Then came to the building the warrior marching,
Bereft of his joyance. The door quickly opened
On fire—hinges fastened, when his fingers had touched it;
The fell one had flung then—his fury so bitter—
Open the entrance."

- A. Beowulf opens the door of the mead-hall and finds Grendel waiting.
- B. Grendel arrives and rips open the door of the mead-hall.
- C. Beowulf keeps the door of the mead-hall closed as Grendel tries to enter.
- D. Grendel tries to break down the door of the mead-hall but fails.

PLEASE HELP DUE TOMORROW In one or two sentences answer "How would a communist define the concept of "revolution"?" "

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