

## CHEMISTRY

### Cheese Cake Recipe

Chef Fawzi Habib Fawwaz is preparing a strawberry cheese cake for his tonight guests. He is going to follow the following recipe:

*3 cream cheese blocks*  
*1 cup of sugar*  
*5 eggs*  
*24 strawberries*



**Can you transform the above recipe into a cheese cake equation?**

→

Chef Fawzi is asking you to help him in each of the following cases:

- In the kitchen, the chef needs to prepare two cheese cakes then:
  1. How many cheese cream blocks does he need?
  2. How many cups of sugar does he need?
  3. How many strawberries does he need?
- In the kitchen, the chef has only 3 cups of sugar then:
  1. How many cakes can he make?
  2. How many eggs does he need?
- In the kitchen, the chef has 30 strawberries then:
  1. How many cakes can he make?
  2. How many blocks cheese cream does he need?

## Application to chemistry:

### Question 1:

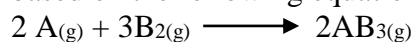
The elements aluminum Al and bromine Br<sub>2</sub> react to form the salt aluminum bromide.

1. Write a balanced chemical equation for this process. Show the states of the reactants and the products.
2. In the boxes below draw the microscopic particles for both the reactants and the products.

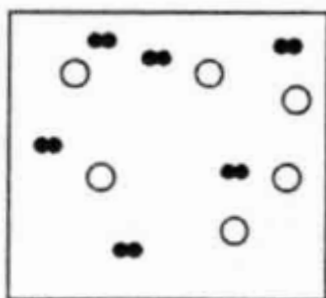
Reactants	Products
<div></div>	<div></div>

### Question 2:

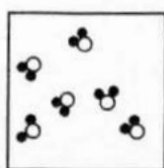
Two substances, A and B<sub>2</sub>, in the gaseous state react under appropriate conditions based on the following equation:



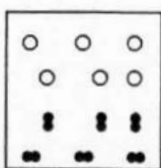
A is a yellow gas and both B<sub>2</sub> and AB<sub>3</sub> are odorless colorless gases. A and B<sub>2</sub> are mixed together in a closed glass container, in the proportions represented in the figure below.



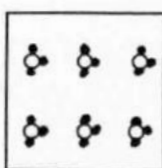
The reaction between A and B<sub>2</sub> is allowed to take place. Which of the boxes below represent the content of the container after the reaction takes place?



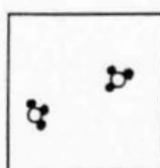
(A)



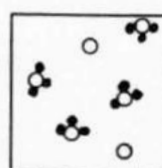
(B)



(C)



(D)



(E)