

Show all work; observe all significant figures, and record units with all answers.

1. $1 \text{ cheese slice} + 2 \text{ bread slices} \rightarrow 1 \text{ cheese sandwich}$

- a. A cook has 12 slices of cheese and 20 slices of bread. How many cheese sandwiches can be made?

Ans: _____

- b. A cook has 38 slices of cheese and 4 loaves of bread with 18 slices per loaf, how many cheeses sandwiches can be made?

Ans: _____

- c. A super cook has 0.100 moles of cheese slices and 0.600 moles of bread slices. How many moles of cheese sandwiches can be made?

Ans: _____

- d. How many cheese sandwiches can be made from the starting materials in (c)?

Ans: _____

- e. Cheese slices have a mass of 12.5 grams each. If you have 5.00 kg of cheese slices, what is the maximum number of sandwiches that can be made?

Ans: _____

- f. How many slices of bread are needed to make sandwiches from all the cheese in (e)?

Ans: _____

- g. The average bread slice has a mass of 20.0 grams. How much is the total mass of the bread from part (f)?

Ans: _____

- h. What is the mass of the sandwiches made from bread in part (g)?

Ans: _____

Show all work; observe all significant figures, and record units with all answers.



A total of 4.0 **moles** of hydrogen and 3.0 **moles** of oxygen are available.

a. Which reactant is **limiting**?

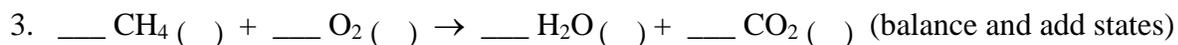
Ans: _____

b. What is the maximum number of **moles** of water that can be formed?

Ans: _____

c. What is the **mass** (g) of the maximum amount of water that can be formed?

Ans: _____



A total of 16.0 **grams** of methane and 64.0 **grams** of oxygen are available. Once mixed, this reaction runs *to completion*, meaning that all of the limiting reactant is consumed.

a. Which reactant is **limiting**?

Ans: _____

b. How many **moles** of water are formed?

Ans: _____

c. How many **moles** of methane are consumed?

Ans: _____

d. How many **moles** of oxygen are consumed?

Ans: _____

e. What **mass** of oxygen is consumed?

Ans: _____

f. What **mass** of water is formed?

Ans: _____

g. What **mass** of carbon dioxide is formed?

Ans: _____