

New West Charter High School -- Chemistry -- Test #2 -- Unit 3B -- 75 points

Be neat and complete -- if I cannot read it, you don't get credit. Show all of your work. Partial credit for partial achievement where applicable.

Write TRUE if the statement is true OR write the word that substitutes for the underlined word that would make it true. Writing false only earns partial credit. Three points each.

_____ 1) In every neutralization reaction, the products are carbon dioxide and water.

_____ 2) When balancing chemical reactions, you are only allowed to change coefficients.

_____ 3) Combustion means rapid combination with fire.

_____ 4) The symbol (aq) tells you that a substance is dissolved in water.



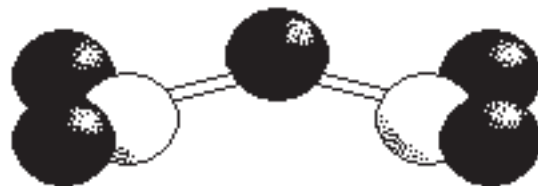
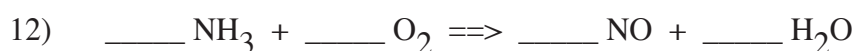
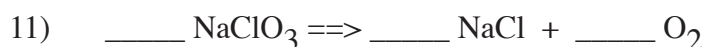
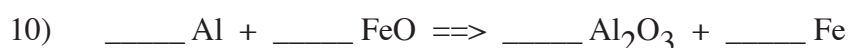
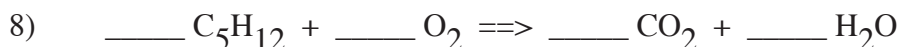
_____ 5) The substances on the left side of a chemical reaction are called reactants.

Write the basic chemical equation with symbols for each word equation. Then balance them. Five points each.

6) Sodium hydroxide (aq) is added to aluminum metal to make aluminum hydroxide (s) and sodium metal.

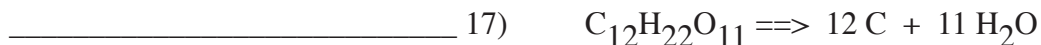
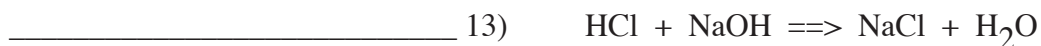
7) Copper (II) nitrate (aq) is added to hydrogen sulfide (g) to make copper (II) sulfide (s) and nitric acid (aq).

Balance the following chemical reactions. Three points apiece.




CHEMISTS HAVE
SOLUTIONS !

For each of the following, identify them as which type of chemical reaction they are (two points each):



Calculation Section - Be sure to show all five steps somewhere in the problems. Five/ten points each here.

18) We need to produce 500 L of water vapor by burning methane gas, CH_4 , in oxygen. How many grams of methane will I need? Ten points.

19) If I had 80 moles of oxygen gas to react in #18 above, how many moles of carbon dioxide would I get?

20) We combine aluminum powder and iron (III) oxide to make aluminum oxide Al_2O_3 and molten iron. How many grams of molten iron would I get if I started with 250 g of iron (III) oxide? Ten points.

21) EXTRA CREDIT - Guessing is okay. If a chicken-and-a-half lays an egg-and-a-half in a day-and-a-half, how long does it take ten chickens to lay ten eggs? (three points)