Name_____

Chemistry review sample questions

1. Experiments performed to reveal the structure of the atoms led scientists to conclude that an atom's

a) Positive charge is evenly distributed throughout the atom
b) Negative charge is mainly concentrated in its nucleus
c) Mass is evenly distributed throughout its volume
d) Volume is mainly empty space

2. An energy beam was sent from the cathode (-) to the anode (+). Which of the following did J.J. Thompson study using a cathode ray tube?

a. Atoms
b. Electrons
c. Neutrons
d. Nucleus
e. Quarks

3. The modern model of the atom shows that electrons are:

a. Orbiting the nucleus in fixed paths
b. Found in regions called orbitals
c. Combined with neutrons in the nucleus
d. Located in the solid sphere covering the nucleus

4. An experiment in which alpha particles were used to bombard thin sheets of gold foil (Rutherford's gold foil experiment) led to the conclusion that an atom is composed mostly of

a. Empty space and has a small, negatively charged nucleus.
b. Empty space and has a small, positively charged nucleus.
c. A large, dense, positively charged nucleus
d. A large, dense, negatively charged nucleus

5. As an atom becomes an ion, its mass number

a. Decreases
b. Increases
c. Remains the same

6. When do electrons emit photons (light) ? When the electrons:

A) are excited to a higher energy state.
B) Move to a lower energy state
C)Increase orbital speed around the nucleus
D) Explode

7. In the following synthesis reaction Hydrogen and Oxygen combine to form water.

$2H_2 + O_2 \rightarrow 2H_2O$

If you start with 15 moles of Hydrogen how many moles of water are produced?

a)15 moles of water
b)7.5 moles of water
c)30 moles of water
d)60 moles of water

Name_____

Chemistry review sample questions

8. $2KClO_3 \rightarrow 2\ KCl + 3\ O_2$

How many moles of Oxygen can be produced by letting 15 moles of Potassium Chlorate ($KCLO_3$) react?

A) 15 moles
B) 7.5 moles
C) 22.5 moles
D) 30 moles
E) 10 moles

9. Which statement about the mass of an electron is correct?

a. The mass of an electron is equal to the mass of a proton.
b. The mass of an electron is less than the mass of a proton.
c. The mass of an electron is equal to the mass of a neutron.
d. The mass of an electron is greater than the mass of a neutron.

10. Which statement best describes electrons?

a. They are positive subatomic particles and are found in the nucleus.
b. They are positive subatomic particles and are found surrounding the nucleus.
c. They are negative subatomic particles and are found in the nucleus.
d. They are negative subatomic particles and are found orbiting the nucleus in energy levels.

11. What is the atomic number of an element that has six protons and eight neutrons.

a. 6 b. 2 c. 8 d. 14

12. An atom has 7 protons, 6 neutrons and 10 electons.

What is the element?

a. Carbon b. Nitrogen c. Neon d. Aluminum

13. An atom has 7 protons, 6 neutrons and 10 electons.

What is the atomic mass of the element?

a. 7 b. 6 c. 13 d. 23

14. An atom has 7 protons, 6 neutrons and 10 electons.

What is the charge of the element?

a. -3 b. 3 c. 0 d. +1

15. Which term describes a reaction in which heat is produced?

a. Cosmothermic
b. Endothermic
c. Exothermic
d. Isothermic
e. Nonthermic