Answers To The Chemistry For Nursing Readiness Test

1.

Element name	Element symbol
Oxygen	O
Hydrogen	H
Sodium	Na
Magnesium	Mg
Carbon	C
Potassium	K
Calcium	Ca
Chlorine	Cl
Iron	Fe

2. 6 Protons, 6 electrons and 6 neutrons.

3. 8 Protons, 8 electrons and 8 neutrons. For this question you needed to be able to look up the atomic number of oxygen on the periodic table.

4.

Element	Metal/non-metal
Sodium	Metal
Chlorine	Non-metal
Hydrogen	Non-metal
Iron	Metal
Potassium	Metal
Calcium	Metal
Nitrogen	Non-metal

5.

Element	Atomic number	Number of electrons in each shell			
		1	2	3	4
Hydrogen	1	1			
Carbon	6	2	4		
Nitrogen	7	2	5		
Oxygen	8	2	6		
Sodium	11	2	8	1	
Magnesium	12	2	8	2	
Aluminium	13	2	8	3	
Chlorine	17	2	8	7	
Potassium	19	2	8	8	1
Calcium	20	2	8	8	2

6.

Element	**Valence electrons**
Hydrogen	1
Carbon	4
Nitrogen	5
Oxygen	6
Sodium	1
Magnesium	2
Aluminium	3
Chlorine	7
Potassium	1
Calcium	2

7.

Name	**Formula**
Sodium chloride	$NaCl$
Magnesium chloride	$MgCl_2$
Sodium hydroxide	$NaOH$
Calcium bicarbonate	$Ca(HCO_3)_2$
Aluminium hydroxide	$Al(OH)_3$
Sodium Bicarbonate	$NaHCO_3$
Calcium sulphate	$CaSO_4$

8.

Name	**Formula**
Carbon dioxide	CO_2
Water	H_2O
Oxygen	O_2
Chlorine	Cl_2
Hydrogen	H_2
Carbon tetrachloride	CCl_4
Nitrogen	N_2

9. The molecular or formula mass of

   a. Hydrogen (H_2) is 2x1.008 = 2.016 amu (2.0 amu correct to 1 decimal place)

b. Hydrochloric acid (HCl) is 1.008 + 35.45 = 36.458 amu. (36.5 amu)

For this question you needed to be able to read the atomic weights from the periodic table.

10. The molar mass (the mass of one mole of the substance) of

a. Sodium hydroxide (NaOH). You must first find the formula mass. Formula mass is 22.99 + 16.0 + 1.008 = 40.007 amu. The molar mass is thus 40.0 g (correct to one decimal place).

c. Oxygen (O_2). The formula mass is 2 x 16.0 = 32.0 amu. The molar mass is thus 32.0 g.

11. Dextrose (glucose) is found as an energy source in IV fluids. If 32 g of dextrose is dissolved and made up to give 800 mL of solution, calculate the percentage concentration (w/v) of the solution.

32 g of dextrose in 800 mL of solution is equivalent to 4 g of dextrose in every 100 mL of solution. The concentration of dextrose is thus 4% (w/v).