

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 ₂ O
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 (H₂) is $2 \times 1.008 = 2.016$ 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 (O₂). The formula mass is $2 \times 16.0 = 32.0$ 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).