WODSS SCIENCE Name:_____

SCH 3UI Date: _____

Review #2: Formation of Ionic Compounds

1. Draw Lewis Dot Diagrams for the following atoms and their common ion:

Element Name	# Valence Electrons	Lewis Dot Diagram	Charge on Atom	Ion Symbol	Diagram of Stable Ion
Magnesium	2	Mg•	2+	Mg^{2+}	$[Mg]^{2+}$
Potassium	1	K	1+	K^{1+}	$[K]^{1+}$
Sulfur	6	S	2-	S^{2-}	[S]$^{2-}$
Fluorine	1	F	1-	F^{1-}	[F]$^{1-}$

2. Identify the noble gas that has the same electron configuration as each of the following ions from question 1:

Element Name	Noble Gas
Magnesium	Ne
Potassium	Ar
Sulfur	Ar
Fluorine	Ne

3. What rule is used to predict the number of electrons that must be lost or gained in order to achieve stability?
   In order to achieve a stable octet

4. Using Lewis Dot Diagrams and the octet rule, show how each of the following pairs of atoms bond to form an ionic compound. You may need more than one atom of each type.

   a) Calcium and oxygen Ca + O → $[Ca]^{2+}$ [O] $^{2-}$

   CaO calcium oxide

   b) Lithium and fluorine Li + F → $[Li]^{1+}$ [F] $^{1-}$

   LiF lithium fluoride

   c) Magnesium and bromine Mg + Br + Br → $[Mg]^{2+}$ 2 [Br] $^{1-}$

   $MgBr_2$ magnesium bromide

5. Name the type of bond that occurs in the compounds in question 4. Ionic bonds

6. Why are the compounds in question 4 considered electrolytes? They form ions and conduct electricity

7. How could you experimentally verify that the compounds in question 4 are electrolytes? They will conduct electricity which can be checked by a conductivity meter.