Part II Short Answer

1. (10 Points) Writing formulas and naming compounds. Complete the following table.

Cation	Anion	Formula	Name
Mg^{2+}	NO_3^-	$Mg(NO_3)_2$	Magnesium nitrate
NH_4^+	PO_4^{3-}	$(NH_4)_3PO_4$	ammonium phosphate
Cu^+	S^{2-}	Cu_2S	Copper (I) Sulfide
N^{4+}	O^{2-}	NO_2	Nitrogen (IV) Oxide

2. (5 Points) Correctly draw the Lewis Dot Structures in each box.

Na	O	C	CO	Na_2O
Na•	·Ö:	·Ċ·	:C≡O:	$2[Na]^+[:\ddot{O}:]^{2-}$

3. (5 Points) The following questions test your ability to use significant figures.

How many significant figures are in each of the following numbers?

a) 3.650 4 b) 0.0606 3 c) 5.40×10^4 3

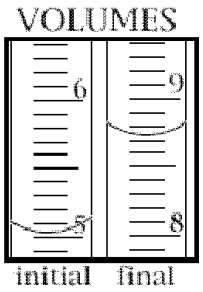
Express your answer using the correct number of significant figures.

d) 45.9 + 1.256 = 47.2 e) 54.73 X .31794 = 17.40

4. (5 Points) The final question is based on the experimental determination of an element's density.

a) To determine the volume you place the element in a graduated cylinder containing water. The picture to the right shows the volume of water before and after the element was added. Record the volume of the element.

3.72 mL 8.75 - 5.03



b) Determine the density of the element using a mass of 38.9 grams. (show the formula, substitution, and the answer with units).

$D = \frac{m}{v}$ $D = \frac{38.9\ g}{3.72\ mL}$ 10.5 g/mL

c) Using your reference tables select the element which best matches your density.

Ag / silver