Name:		Date:	
<b>Chemistry</b> ~ Ms. Hart	<u>Class:</u>	Anions or Cations	SCHOOL FOR CRIMINAL JUSTICE
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#### 6.4 Conservation of Mass - Homework

#### **Directions:**

- Draw a circle around the reactants
- Draw a square around the products
- Write equation chemical equation in sentence form
- Determine whether or not the equation is balanced by using the table provided

 $S + O_2 \rightarrow SO_3$ 

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

### $Li + N_2 \rightarrow Li_3N$

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

$$N_2 + O_2 \rightarrow N_2O_5$$

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

# $Al(s) + O_2(g) \rightarrow Al_2O_3(s)$

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

## $K + B_2O_3 \rightarrow K_2O + B$

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

### $Ag + H_2S \rightarrow Ag_2S + H_2$

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

# $Li + AlCl_3 \rightarrow LiCl + Al$

Sentence:

Balanced? (circle one)
yes
no

Element
# of atoms on the reactants side
# of atoms on the products side

Image: Image:

# $NaClO_3 \rightarrow NaCl + O_2$

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

### $SnO_2 + C \rightarrow Sn + CO$

Sentence:

Balanced? (circle one) yes no

Element	# of atoms on the reactants side	# of atoms on the products side

### **Regents Questions:**

1)

Which equation shows conservation of atoms?

$$\begin{array}{l} (1) \hspace{0.1cm} \mathrm{H_2} + \mathrm{O_2} \rightarrow \mathrm{H_2O} \\ (2) \hspace{0.1cm} \mathrm{H_2} + \mathrm{O_2} \rightarrow 2\mathrm{H_2O} \\ (3) \hspace{0.1cm} 2\mathrm{H_2} + \mathrm{O_2} \rightarrow 2\mathrm{H_2O} \\ (4) \hspace{0.1cm} 2\mathrm{H_2} + 2\mathrm{O_2} \rightarrow 2\mathrm{H_2O} \end{array}$$

2)

Given the balanced equation representing a reaction:

$$\mathrm{H^{+}\!(aq)} + \mathrm{OH^{-}\!(aq)} \rightarrow \mathrm{H_{2}O}(\ell) + 55.8 \ \mathrm{kJ}$$

In this reaction there is conservation of

(1) mass, only

- (2) mass and charge, only
- (3) mass and energy, only
- (4) mass, charge, and energy

#### 3)

Given the incomplete equation for the combustion of ethane:

 $2\mathrm{C}_{2}\mathrm{H}_{6}+\mathrm{7O}_{2}\rightarrow\mathrm{4CO}_{2}+6\_\_\_$ 

What is the formula of the missing product?

(1) $CH_3OH$	(3) $H_2O$
(2) HCOOH	$(4)~\mathrm{H_2O_2}$

4)

Given the incomplete equation:

$$4\mathrm{Fe}+3\mathrm{O}_2\to 2X$$

Which compound is represented by X?

- (1) FeO (3)  $Fe_3O_2$
- (2)  $Fe_2O_3$  (4)  $Fe_3O_4$