

### Balancing Equations Worksheet – Review#2

1. When sulfur trioxide (SO<sub>3</sub>), which is present in smoggy air in trace concentrations, reacts with water, sulfuric acid (H<sub>2</sub>SO<sub>4</sub>), a very corrosive acid, forms as the only product. Write a balanced equation for this reaction and describe its stoichiometry in words.
2. Write the following word equation in chemical formulas, "Iron can be made to react with molecular oxygen to give iron oxide having the formula Fe<sub>2</sub>O<sub>3</sub>."
3. Balance the following skeleton equations:
 

(a) SO <sub>2</sub> + O <sub>2</sub> → SO <sub>3</sub>	(e) N <sub>2</sub> + H <sub>2</sub> → NH <sub>3</sub>
(b) Mg + O <sub>2</sub> → MgO	(f) P + O <sub>2</sub> → P <sub>4</sub> O <sub>10</sub>
(c) NO + O <sub>2</sub> → NO <sub>2</sub>	(g) KClO <sub>4</sub> → KCl + O <sub>2</sub>
(d) HgO → Hg + O <sub>2</sub>	(h) PbO <sub>2</sub> → PbO + O <sub>2</sub>
4. Write the balanced equation for the formation of table salt, NaCl (sodium chloride), from sodium (Na), and gaseous chlorine (Cl<sub>2</sub>).
5. Although bright and shiny, aluminum objects are covered with a tight, invisible coating of aluminum oxide. (Al<sub>2</sub>O<sub>3</sub>) that forms when freshly exposed alu-

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Equal

equal to  
result is  
is

#### EXAMPLES:

Translate each of the following into a

- 1) Twelve more than five times a number.
- 2) Six times the sum of a number and four.
- 3) Eight subtracted from two times a number.
- 4) The quotient of one less than a number and twice a number.
- 5) The sum of a number and its reciprocal is equal to four.

an algebraic expression.

number. 5x + 12

and four. 6(x + 4)

number. 2x - 8

number and twice a number.  $\frac{x-1}{2x}$

reciprocal is equal to four.  $x + \frac{1}{x} = 4$