

Stoichiometry Problems – Set I

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1. Consider the reaction: $2 \text{Pb}(\text{NO}_3)_2 \rightarrow 2 \text{PbO} + 4 \text{NO}_2 + \text{O}_2$
 Complete the following table, given that 0.3 moles of PbO are produced.

mol Pb(NO ₃) ₂	mol PbO	mol NO ₂	mol O ₂
	0.3		

2. The discovery of oxygen occurred from the decomposition of mercury(II) oxide, HgO, into its elements.

(a) Write a balanced equation for this decomposition reaction.

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(b) How many grams of oxygen would be produced by the reaction of 43.32 g of HgO?

answer _____ g O₂

3. Nitroglycerin (C₃H₅N₃O₉) is a powerful explosive. Its decomposition may be represented by:



(a) Balance the above reaction.

(b) Using your balanced equation and given that 16.0 g of oxygen are made in the reaction, complete the following table.

mol C ₃ H ₅ N ₃ O ₉	mol N ₂	mol CO ₂	mol H ₂ O	mol O ₂