**Objective: Determine stoichiometric relationships using an equation table. Show Full Solutions.**

**Exercise 1:** Canisters containing LiOH are used to remove CO2 from the air in enclosed spaces such as spacecraft. The balanced equation for this reaction is

 2LiOH(s) + CO2(g) → Li2CO3(s) + H2O(l)

Assuming 1400 g of CO2 is produced by the occupants of a spacecraft over a 24-hour period, how many grams of LiOH will be needed to consume all the CO2 produced for a whole day?

**Exercise 2:** Propane, C3H8, is a typical flamethrower fuel. Military forces continue to use these sorts of weapons today, but the technology is more commonly used for nonviolent civilian purposes. Most notably, foresters use flamethrowers in prescribed burning and farmers use it to clear fields. Some car enthusiasts install low-range flame throwers at the back of their cars to release an impressive ball of fire when they take off.

a) How many grams of O2 will be required to burn the 12.9 g of propane, C3H8, which is the amount needed to fuel each torch a farmer is using to clear his field? Assume that this is a complete combustion reaction.



b) How many molecules of CO2 will be produced?