Name _____ DATE _____

% Yield.

1. $\%\ \text{yield} = \left(\frac{\text{Actual Yield}}{\text{Theoretical Yield}} \times 100\%\right)$

$\left(\frac{32g}{34g} \times 100\%\right) = 94.12\%$

2. $\%\ \text{yield} = \left(\frac{\text{Actual}}{\text{Theoretical}} \times 100\%\right)$

$\left(\frac{13.5g}{14.4g}\right) \times 100\% = 94.52\%$

3. % yield of Lithium

$\left(\frac{3.89}{4.2} \times 100\%\right) = 90.48\%$

4. $2Li_{(s)} + H_2SO_{4(aq)} \rightarrow Li_2SO_{4(s)} + H_{2(g)}$

moles of $Li = \frac{34.8g}{6.941 g/mol} = 5.014$ moles of Li.

moles of $Li_2SO_4 = \frac{5.014 \text{ moles}}{2} = 2.506$ moles.

mass of $Li_2SO_4 = (2.506 \text{ moles} \times 109.94 g/mol) = 275.60g$

$\%\ \text{yield} = \left(\frac{270.5g}{275.6g} \times 100\%\right) = 98.15\%$