AP* Chemistry   Name: _____
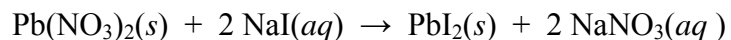Stoichiometry Quiz I   Period:_____

A 0.150 g sample of solid lead(II) nitrate is added to 125 mL of 0.100 M sodium iodide solution.
Assume no change in volume of the solution. The chemical reaction that takes place is represented by the
following equation.

$$Pb(NO_3)_2(s) \ + \ 2 \ NaI(aq) \ \rightarrow \ PbI_2(s) \ + \ 2 \ NaNO_3(aq \ )$$

(a) List an appropriate observation that provides evidence of a chemical reaction between the two
    compounds.

(b) Calculate the number of moles of each reactant.

(c) Identify the limiting reactant. Show calculations to support your identification.

(d) Calculate the molar concentration of $NO_3^-(aq)$ in the mixture after the reaction is complete.

(e) Circle the diagram below that best represents the results after the mixture reacts as completely as possible. Explain the reasoning used in making your choice.

No Precipitate

Solid PbI_2

Solid PbI_2

Solid PbI_2

Solid $Pb(NO_3)_2$