Answers to Solubility Rules Worksheet

1. Classify each of the substances as being soluble or insoluble in water.

   a. potassium bromide – **sol**
   b. lead (II) carbonate – **insol**
   c. barium sulfate – **insol**
   d. zinc hydroxide – **insol**
   e. sodium acetate – **sol**
   f. silver iodide – **insol**
   g. cadmium (II) sulfide – **insol**
   h. zinc carbonate – **insol**
   i. silver acetate – **sol**
   j. copper (II) sulfide – **insol**
   k. $Mg_3(PO_4)_2$ – **insol**
   l. KOH – **sol**
   m. $NiCl_2$ - **sol**
   n. NH_4OH – **sol**
   o. Hg_2SO_4 – **insol**
   p. PbI_2 – **insol**

2. Identify the two new compounds which form if the solutions, as suggested by the following table, were mixed. CIRCLE the names of the compounds which would precipitate from the solutions.

	KBr	Na_2CO_3	CaS	NH_4OH
$AgNO_3$	**AgBr** + KNO_3	$NaNO_3$ + **Ag_2CO_3**	$Ca(NO_3)_2$ + **Ag_2S**	**AgOH** + NH_4NO_3
$BaCl_2$	KCl + $BaBr_2$	NaCl + **$BaCO_3$**	$CaCl_2$ + BaS	$Ba(OH)_2$ + NH_4Cl
$Al(NO_3)_3$	$AlBr_3$ + KNO_3	$NaNO_3$ + **$Al_2(CO_3)_3$**	$Ca(NO_3)_2$ + **Al_2S_3**	NH_4NO_3 + **$Al(OH)_3$**
$CuSO_4$	$CuBr_2$ + K_2SO_4	Na_2SO_4 + **$CuCO_3$**	**CuS** + **$CaSO_4$**	$(NH_4)_2SO_4$ + **$Cu(OH)_2$**