(5) $2HBr + Sr(OH)_2 \rightarrow SrBr_2 + 2H_2O$

$0.1000\,L\ Sr(OH)_2 \times \frac{0.15\ mol\ Sr(OH)_2}{1\ L} = 0.015\ mol\ Sr(OH)_2$

$0.015\ mol\ Sr(OH)_2 \times \frac{2\ mol\ HBr}{1\ mol\ Sr(OH)_2} = 0.030\ mol\ HBr \rightarrow \frac{0.030\ mol\ HBr}{} \times \frac{1\ L}{0.52\ mol\ HBr} =$

0.058 L (or 58 mL) of 0.52 M HBr

① $KOH + HCl \rightarrow KCl + H_2O$

$0.02787\,L\ KOH \times \frac{0.8186\,mol\,KOH}{1\,L} = 0.022814\,mol\,KOH$

$0.022814\,mol\,KOH \times \frac{1\,mol\,HCl}{1\,mol\,KOH} = 0.022814\,mol\,HCl \rightarrow \frac{0.022814\,mol\,HCl}{0.05000\,L} =$

4.562 M

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② $H_2SO_4 + 2LiOH \rightarrow Li_2SO_4 + 2H_2O$

$0.04227\,L\ LiOH \times \frac{1.209\,mol\,LiOH}{1\,L} = 0.051104\,mol\,LiOH \times \frac{1\,mol\,H_2SO_4}{2\,mol\,LiOH} = 0.02556\,mol\,H_2SO_4$

$\frac{0.02556\,mol\,H_2SO_4}{0.02500\,L} =$ **1.022 M H_2SO_4**

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③ $Ba(OH)_2 + 2HNO_3 \rightarrow Ba(NO_3)_2 + 2H_2O$

$0.02165\,L\ HNO_3 \times \frac{0.65\,mol\,HNO_3}{1\,L} = 0.0140725\,mol\,HNO_3 \times \frac{1\,mol\,Ba(OH)_2}{2\,mol\,HNO_3} = 0.0070363\,mol\,Ba(OH)_2$

$\frac{0.0070363\,mol\,Ba(OH)_2}{0.04110\,L} =$ **0.17 M $Ba(OH)_2$**

$H_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2H_2O$

④ $0.02000\,L\,H_2SO_4 \times \frac{2.00\,mol\,H_2SO_4}{1\,L} = 0.0400\,mol\,H_2SO_4$

$0.0400\,mol\,H_2SO_4 \times \frac{2\,mol\,NaOH}{1\,mol\,H_2SO_4} = 0.0800\,mol\,NaOH$

$0.0800\,mol\,NaOH \times \frac{1\,L}{1.85\,mol\,NaOH} =$ **0.0432 L NaOH → 43.2 mL NaOH**