

CHAPTER 7	Qualitative Analysis Answer Key	BLM 7.1.5A
ANSWER KEY		

1. The transition metal with a blue colour in solution and a blue flame color is *copper*.
2.
  - (a)  $\text{FeCl}_3(\text{aq})$  is a yellow solution, while  $\text{FeCl}_2(\text{aq})$  is a green solution.
  - (b)  $\text{Cr}(\text{NO}_3)(\text{aq})$  is a green solution, while  $\text{Cr}(\text{NO}_3)_2(\text{aq})$  is a blue solution.
  - (c)  $\text{K}_2\text{Cr}_2\text{O}_7(\text{aq})$  is an orange solution, while  $\text{K}_2\text{CrO}_4(\text{aq})$  is a yellow solution.
  - (d)  $\text{MnCl}_2(\text{aq})$  is a pink solution, while  $\text{KMnO}_4(\text{aq})$  is a purple solution.
3.
  - (a)  $\text{NaOH}(\text{aq})$  could be used to distinguish between  $\text{Sr}(\text{NO}_3)_2(\text{aq})$  and  $\text{Ca}(\text{NO}_3)_2(\text{aq})$ .
  - (b)  $\text{Na}_2\text{SO}_4(\text{aq})$  could be used to distinguish between  $\text{NaNO}_3(\text{aq})$  and  $\text{Ca}(\text{NO}_3)_2(\text{aq})$ .
  - (c)  $\text{NaCl}(\text{aq})$  could be used to distinguish between  $\text{AgClO}_3(\text{aq})$  and  $\text{NaClO}_3(\text{aq})$ .
4. You could make fireworks of three colours if you had access only to alkali metals. Lithium is an alkali metal that could produce a red firework.