GCSE Chemistry B (Twenty First Century Science)

J258/01 Breadth in Chemistry (Foundation Tier)

Question Set 3

Multiple Choice Questions

1 Some farmers use manure from cows as a natural fertiliser. Other farmers use ammonium sulfate as a synthetic fertiliser.

(a) **(i)** The formula of ammonium sulfate is $(NH_4)_2SO_4$.

Which elements does ammonium sulfate contain?

Tick (✓) **four** boxes.

Ammonia	☐
Hydrogen	☐
Nitrogen	☐
Oxygen	☐
Sodium	☐
Sulfur	☐

[1]

(ii) Plants need one of the elements in ammonium sulfate to grow faster.

Write down the name of this element.

[1]

(b) Farmers can choose manure or ammonium sulfate as a fertiliser.

Farmers need to consider the cost of the fertiliser.

(i) Suggest **one** reason, **other than cost**, why some farmers use manure rather than ammonium sulfate as a fertiliser.

[1]

(ii) Suggest **one** reason, **other than cost**, why some farmers use ammonium sulfate rather than manure as a fertiliser.

[1]

(c) Alex has a solution of ammonium sulfate.

(i) Alex uses barium chloride solution to show that the solution contains sulfate ions.

Describe what Alex sees **and** name the substance formed.

[3]

(ii) Alex wants to make **solid** ammonium sulfate from the solution of ammonium sulfate.

What would Alex do first?

Tick (✓) **one** box.

Distil the solution.	☐
Evaporate the solution.	☐
Filter the solution.	☐
Use chromatography.	☐

[1]

(d) 132 g of ammonium sulfate contain 28 g of nitrogen.

Calculate the mass of nitrogen in **1.0 kg** of ammonium sulfate.

Give your answer in kg and to **2** decimal places.

Mass =.....kg **[3]**

Total Marks for Question Set 3: 11