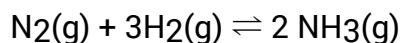




0	3
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Ammonia is a very useful chemical. It is produced from nitrogen and hydrogen.  
The equation for the reaction is:



A company wants to make 13.6 tonnes of ammonia.

0	3	.	1
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Calculate the mass of nitrogen needed.

[3 marks]

Relative atomic masses (Ar): H = 1; N = 14

.....  
 .....

Mass of nitrogen = ..... tonnes

0	3	.	2
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The company expected to make 13.6 tonnes of ammonia. The yield of ammonia was only 8.4 tonnes.

Calculate the percentage yield of ammonia.

[2 marks]

.....  
 .....

Percentage yield of ammonia = ..... %

0	3	.	3
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Use the equation above to explain why the percentage yield of ammonia was less than expected.

[1 marks]

.....  
 .....

(Total 16 marks)

**End of Question**  
**See next page for Data Sheet**

