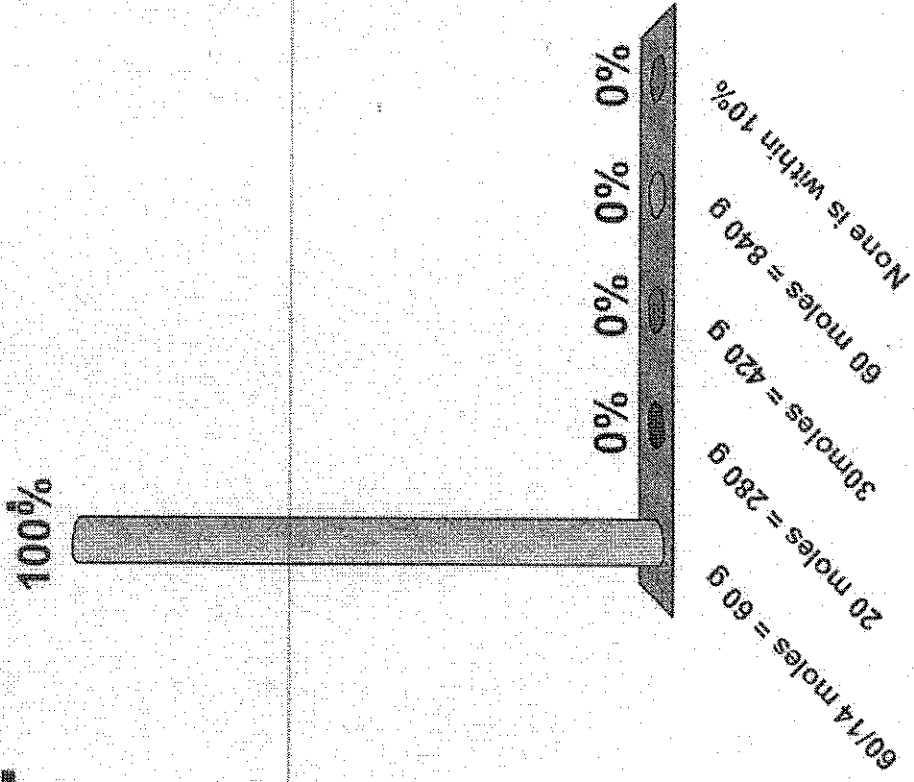


J. Griffin 11/21/07
2-11-17/08

Ammonium is NH_3 , $m_N = 14$ and $m_H = 1$
A.M.U. If 60 g of H_2 gas is available to
make ammonia, how much Nitrogen is
needed to use it all up?

- a) 60/14 moles = 60 g
- b) 20 moles = 280 g
- c) 30 moles = 420 g
- d) 60 moles = 840 g
- e) None is within 10%



The correct answer is b), 20 moles = 280 g, as follows.

- 1) Each mole of Ammonium molecules contains 1 mole (14 g) of N atoms and 3 moles (3 g) of H atoms.
- 2) 60 g of H atoms is 60 moles of H atoms and is enough therefore to make $60/3 = 20$ moles of ammonium.
- 3) 20 moles of ammonium require 20 moles of N atoms, equal to $20 \cdot 14 = 280$ g.
- 4) The correct answer is b).