#7.

$78.3\ g\ B \times \frac{1\ mol}{10.8\ g} = 7.25\ mol\ B \div 7.25 = 1\ mol$

$21.7\ g\ H \times \frac{1\ mol}{1.0\ g} = 21.7\ mol\ H \div 7.25 \cong 3\ mol\ H$

E.F ⇒ BH_3 (H_2O)

e.m. $\frac{10.8}{3.0}$

$13.8\ g/mol$

molar mass:

$N_2\ (g) \rightarrow 28.0\ g/1\ mol$

$0.986 \times 28.05 = m.m\ 27.6\ g/mol$

$\text{"N"} = \frac{m.m}{e.m} \rightarrow \frac{27.6}{13.8} = 2$

$M.F = \text{"N"} \times E.F$

$= 2 \times BH_3$

$= B_2H_6$