

CHG1125 CHEMICAL ENGINEERING FUNDAMENTALS

EXTRA PROBLEMS 8 - ANSWERS

Monday, March 13th, 2017

1. a. 0.70 mol NO produced/mol NH₃ fed to reactor, b. 0.429 mol NH₃ recycled/mol NO produced.
2. a. 3, b. $y_{\text{CH}_4} = 0.0500$, $y_{\text{O}_2} = 0.0275$, $y_{\text{HCHO}} = 0.4275$, $y_{\text{H}_2\text{O}} = 0.4725$, $y_{\text{CO}_2} = 0.0225$.
3. a. 4092 ppm, b. Additional cost to compress the air. The temperature of the gas will be lower, meaning less vapour.