**ChE 7023** 

Homework #5

from Smith, Van Ness, and Abbott, 6th ed.

**13.16** For the cracking reaction:

$$C_{3}H_{8}(g) \rightarrow C_{2}H_{4}(g) + CH_{4}(g)$$

the equilibrium conversion is negligible at 300K, but becomes appreciable at temperatures above 500K. For a pressure of 1 bar, determine:

**Due: April 10, 2019** 

- a) The fractional conversion of propane at 625K [at equilibrium].
- b) The temperature at which the [equilibrium] fractional conversion is 85%.