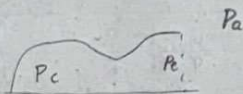Name: Veronica Loomis

SP 02-HW SPA

Given: CF Spreadsheet

Find: Include calcuated separation line for $P_e/P_a = 1/3$
" for Normal Shock at exit

Schematic   Assumptions
                                       Isentropic flow

Basic Equations:

$$P_c/P_e \,|_{isentropic} = \left(1 + \frac{\gamma-1}{2} M_e^2\right)^{\gamma/(\gamma-1)}$$

$$P_e/P_a \,|_{sep\ 1/3} = 1/3$$

$$P_e/P_a \,|_{normal\ shock} = \left[\frac{2\gamma}{\gamma+1} M_e^2 - \frac{\gamma-1}{\gamma+1}\right]^{-1}$$

$$P_c/P_a = (P_c/P_e)(P_e/P_a)$$

Analysis, Answer, & Comparison are on the attached excel file.
The figure is the next page in this PDF.