Home Work Problem 10

For the nozzle shown in the figure use the following transformation to map it into a rectangular domain. The nozzle wall is represented by $y_{\text{max}} = x^2$.

$$\xi = x, \eta = \frac{y}{y_{\text{max}}}$$

Determine numerical values of $\xi_x$, $\xi_y$, $\eta_x$, $\eta_y$ at the point $\xi = 1.5$, $\eta = 0.5$,

i) analytically

ii) numerically using central differencing.