Idea want to Implement

$$\frac{\partial}{\partial y}\left[\left(1+we\left(\frac{\partial u}{\partial y}\right)^2\right)^{\frac{n-1}{2}}\frac{\partial u}{\partial y}\right] = \frac{\partial p}{\partial x}$$

or

$$\frac{\partial}{\partial y}\left[\left(1+we\left(\frac{n-1}{2}\right)\left(\frac{\partial u}{\partial y}\right)^2\right)\frac{\partial u}{\partial y}\right] = \frac{\partial p}{\partial x}$$

For series solutions, want to put

$u = u_0 + we\,u_1 + we^2 u_2$ and $\frac{\partial p}{\partial x} = \frac{\partial p_0}{\partial x} + we\frac{\partial p_1}{\partial x} + we^2\frac{\partial p_2}{\partial x}$

$\Rightarrow$ put these value in above ODE

$\Rightarrow$ want to compare power $(we)^0$, $(we)^1$ and $(we)^2$

After putting value in above equation.