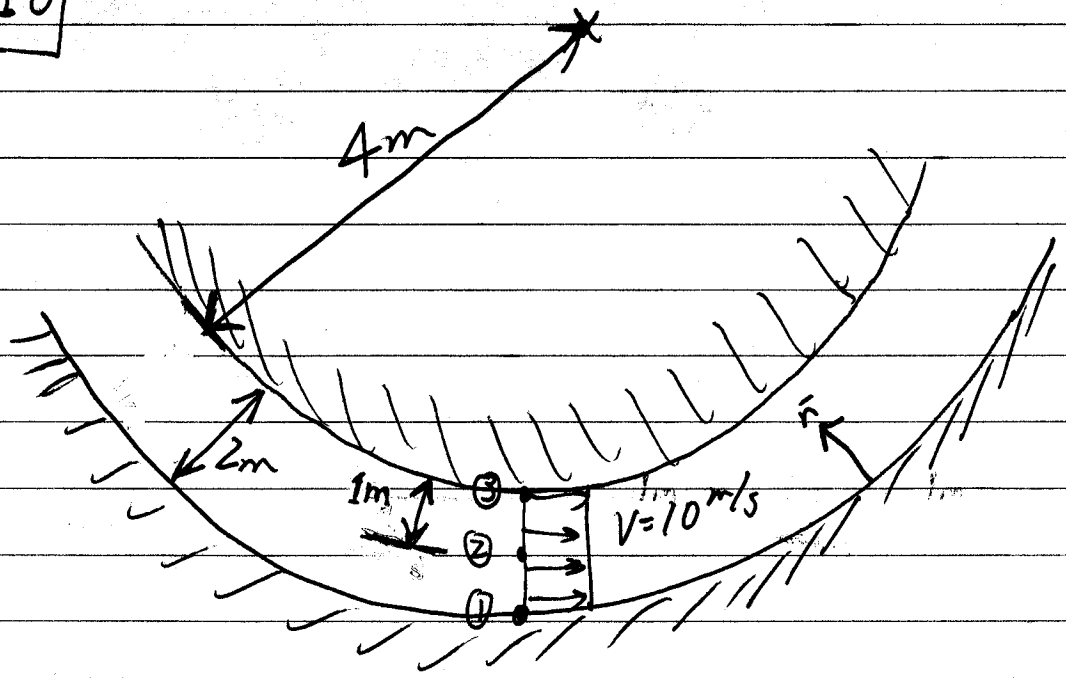
MYO 3.10

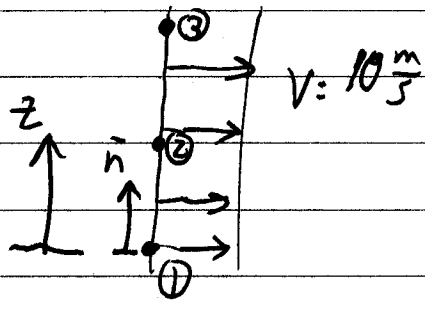


$p_1 = 40\,kPa \quad p_2 = ? \quad p_3 = ?$

Start with Eq. (3.12) $\quad p + \rho\int \frac{V^2}{R}\,d\bar{n} + \gamma z = C$

This relates points on a line that is $\perp$ to a streamline.

Need to evaluate $\quad \rho\int \frac{V^2}{R}\,d\bar{n}$



$R = 6 - \bar{n}$

$$\rho(100)\int \frac{d\bar{n}}{6-\bar{n}}$$

$u = 6 - \bar{n}$

$du = -d\bar{n}$

$$-\rho(100)\int_0 \frac{du}{u} = -100\rho\ln(u)$$

$$= -100\rho\ln(6-\bar{n})$$