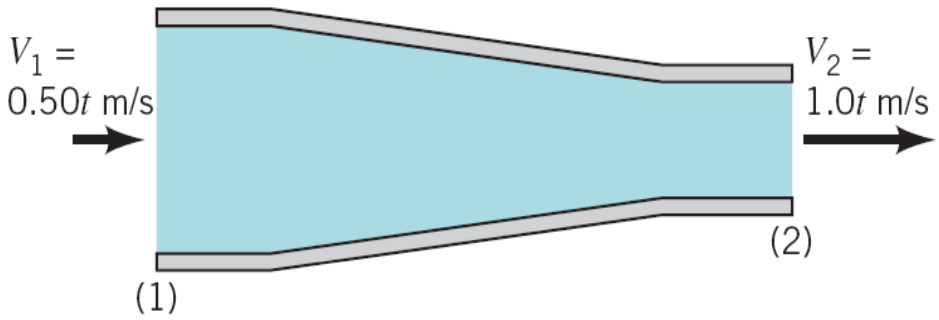
Problems

- 4.4. A velocity field is given by:

$$\vec{V} = x\vec{i} + x(x-1)(y+1)\vec{j}$$

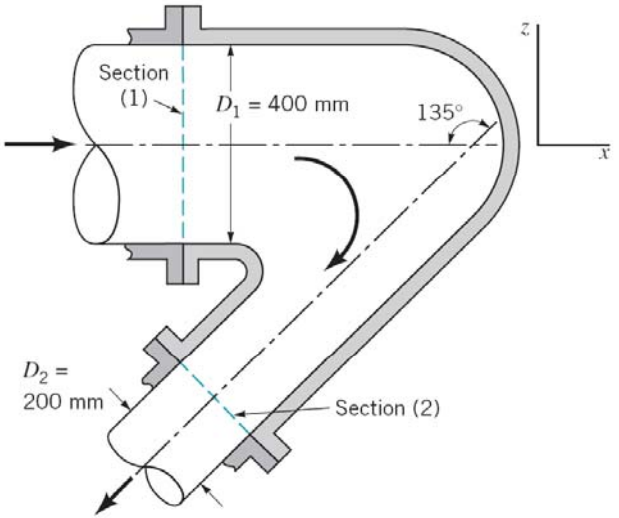
where u and v are in m/s and x,y are in m. Plot the stream lines that passes through x,y=0. Compare this streamline with the streakline through the origin.

- 4.10 Determine local acceleration at points 1 and 2. Is the average convective acceleration between these points negative, zero or positive?



Problems

- **5.19** A converging elbow turns water by 135º. The elbow flow volume is 0.2m^3 between sections 1 and 2, water flow rate is 0.4 m^3/s, pressures at inlet and outlet 150kPa and 90 kPa, elbow mass 12 kg.



- **5.71** Water flows steadily down the inclined pump. Determine:
  - The pressure difference, p_1-p_2;
  - The loss between sections 1 and 2
  - The axial force exerted on the pipe by water