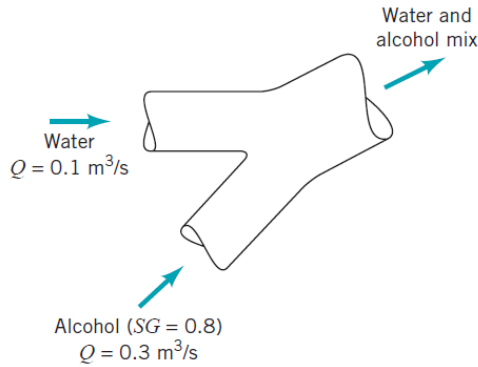


CE371 HOMEWORK-4 (DUE ON 04.12.2019)

Q1) Water at $0.1 \text{ m}^3/\text{s}$ and alcohol ($SG=0.8$) at $0.3 \text{ m}^3/\text{s}$ are mixed in a y-duct as shown in Fig. What is the average density of the mixture of alcohol and water?



Q2) A circular pipe of radius R has a perforated section of length L . The average velocity at section 1 is V_1 .

The discharge per unit length of the perforated section is q_s at section (1) and becomes zero at section (2). Determine:

- the average velocity V_2 at section (2),
- the difference between the mass flux rate of sections (1) and (2).

