$$\rho_1 = \rho_2 = \frac{1.65 g}{cm^3} \cdot \left(\frac{1 kg}{1000 g}\right) \cdot \left(\frac{100^3 cm^3}{1 m^3}\right) = 1650 \ kg/m^3$$

$A_1 = 10.0 \ cm^2$

$A_2 = 2.50 \ cm^2$

$V_1 = 275 \ cm/s = 2.75 \ m/s$

$P_1 = 1.20 \times 10^5 \ Pa$

$y_1 = y_2$

a) $\quad A_1 \cdot V_1 = A_2 \cdot V_2$

$$(10.0 \ cm^2)(2.75 \ m/s) = (2.50 \ cm^2) \cdot V_2$$

$$\boxed{V_2 = 11.0 \ m/s}$$

b) $\quad P_1 + \cancel{\rho_1 \cdot g \cdot y_1} + \frac{1}{2} \cdot \rho_1 \cdot V_1^2 = P_2 + \cancel{\rho_2 \cdot g \cdot y_2} + \frac{1}{2} \cdot \rho_2 \cdot V_2^2$

$$(1.20 \times 10^5 \ Pa) + \frac{1}{2}(1650 \ kg/m^3)(2.75 \ m/s)^2 = \ \ + \frac{1}{2}(1650 \ kg/m^3)(11.0 \ m/s)$$

$$\boxed{P_2 = 2.64 \times 10^4 \ Pa}$$