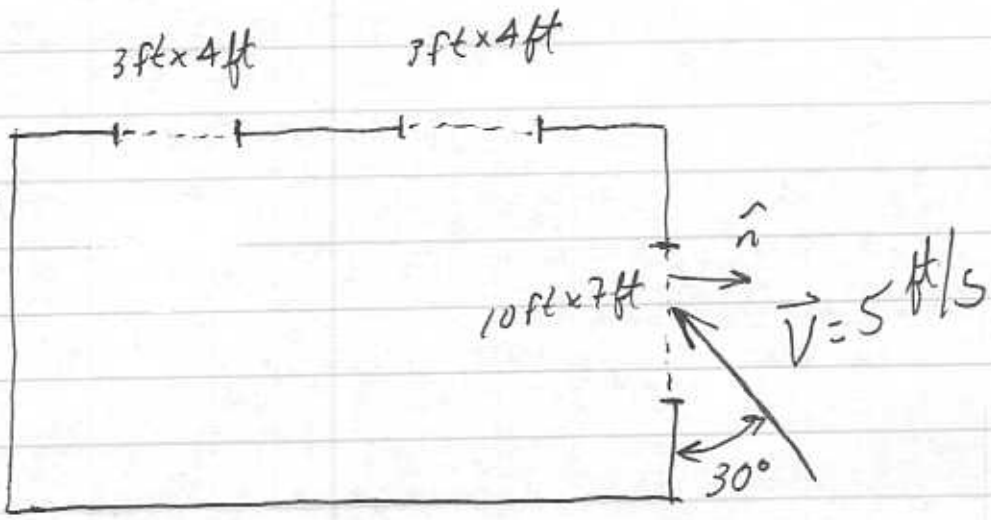
MYO 5.5

$\bar{V}$ for the windows = ?



$$0 = \frac{\partial}{\partial t}\int_{C.V.} \rho \, d\forall + \int_{C.S.} \rho \vec{V} \cdot \hat{n} \, dA$$

Assume 5.5.
Assume ρ = constant
Assume $\vec{V}$ is uniform across inlets/outlets

$$0 = \rho \vec{V} \cdot \hat{n} \int dA$$

$$0 = \rho(5 \text{ ft/s})(\cos 60°)\int_{\text{inlet}} dA + \rho \bar{V} \int_{\text{outlets}} dA$$

$$0 = -5\rho(0.5)(10\text{ ft})(7\text{ ft}) + \rho \bar{V}(2)(3\text{ ft})(4\text{ ft})$$

$$\boxed{\bar{V} = 7.29 \text{ ft/s}}$$