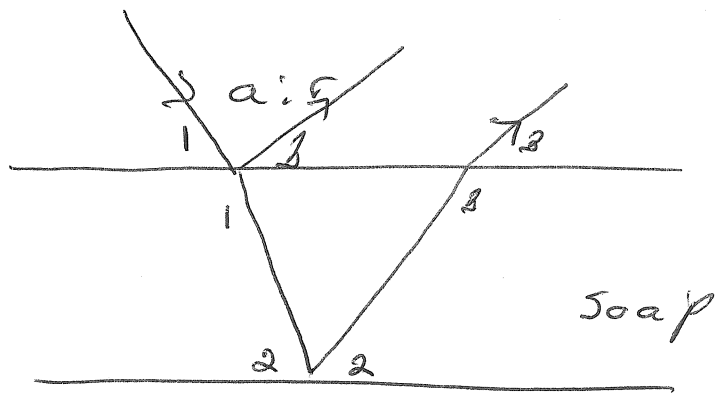
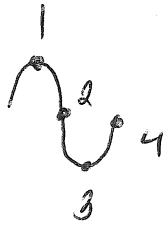


What minimum soap film thickness in air will produce constructive interference for light $\lambda = 522 \text{ nm}$?

$$(n_{\text{soap}} = 1.33)$$

$$t_{\text{min}} = \frac{\lambda}{2n_1} \quad \text{when } n_0 < n_1 < n_2$$



air

$$1-2 \Rightarrow \frac{1}{4} \lambda$$

$$t_{\text{min}} = \frac{\lambda}{4n_1} \quad \text{when } n_0 < n_1 > n_2$$

$$t_{\text{min}} = \frac{522 \text{ E-}9 \text{ m}}{4(1.33)} = 9.81 \text{ E-}8 \text{ m}$$