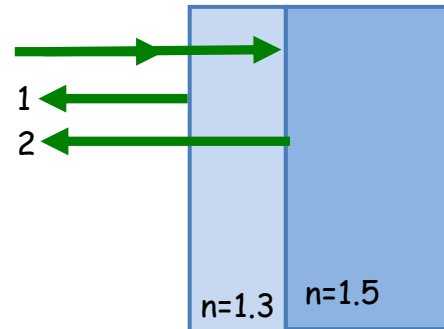
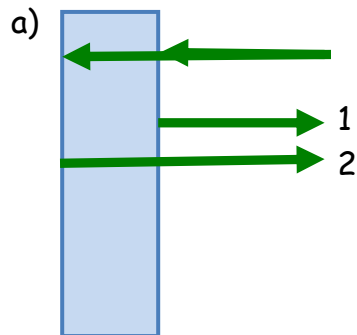


1. A transparent film ($n=1.3$) is deposited on a glass lens ($n=1.5$) to form a nonreflective coating. What is the smallest film thickness that would minimize reflection of light with a wavelength of 500 nm in air.



2. A 910nm soap film in air has an index of refraction of $n=1.46$. (a) Which visible wavelengths are weakest in reflected light? B) Which visible wavelengths are strongest in reflected light? (HINT: try various values of m until you find wavelengths between 400nm and 700 nm)



3. You have a coherent light source with a wavelength of 632 nm. You send the light through a double slit with slit separation of $15\mu\text{m}$ to a screen located 1.2m away.
- if you want to see at least 7 interference maxima, how wide should your screen be?
 - How many maxima will you see if you change the wavelength to a blue light of 410nm? (remember m must be an integer)
 - If you wanted to see just 7 blue maxima, what should you change the screen width to?