

38. Eqs. 36-14 and 36-16 treat the interference of reflections, and here we are concerned with interference of the transmitted light. Maxima in the reflections should, reasonably enough, correspond to minima in the transmissions, and vice versa. So we might expect to apply those equations to this case if we switch the designations “maxima” and “minima,” *if* we are careful with the phase shifts that occur at the points of reflection (which depend on the relative values of  $n$ ). Now, if the expression  $2L = m\lambda/n_2$  is to give the condition for constructive interference for the transmitted light, then the situation should be similar to that which led in the textbook to Eqs. 36-14 and 36-16; namely, the thin film should be surrounded by two higher-index or two lower-index media. Such is the case for Fig. 36-32(a) and Fig. 36-32(c), but not for the others.