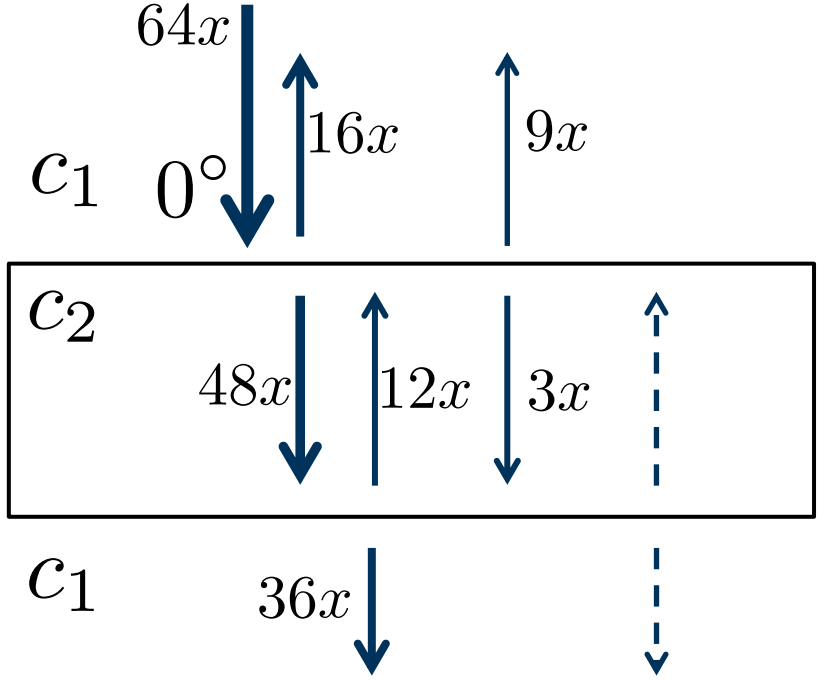
Reflection/Refraction example (solution)

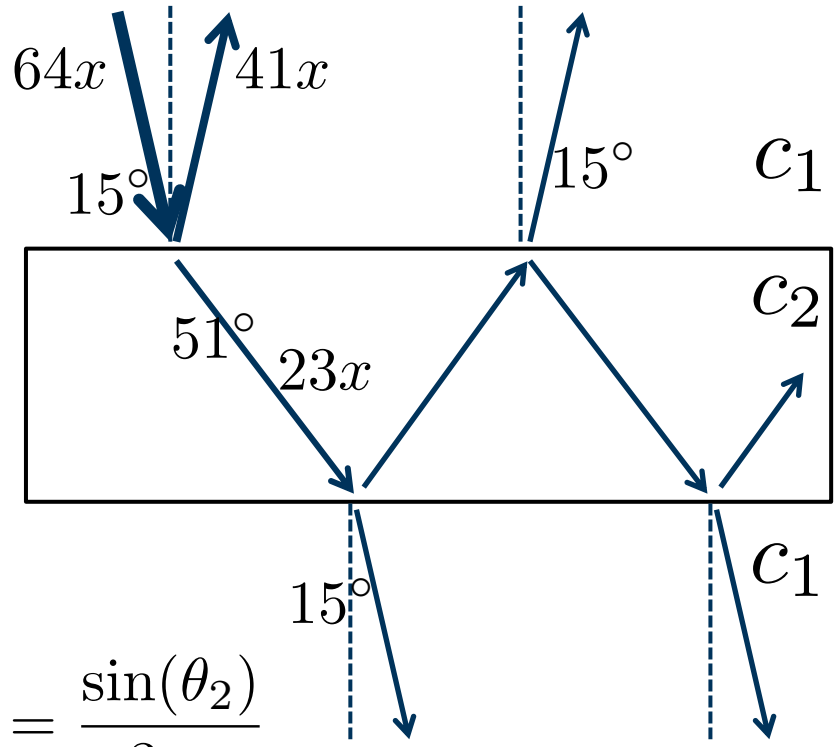
$$c_2 = 3c_1 \qquad \rho_1 = \rho_2$$



$$R_{\mathrm{I}} = \left(\frac{3c_1\rho_1 - c_1\rho_1}{3c_1\rho_1 + c_1\rho_1}\right)^2 = \frac{1}{4}$$

$$R_{\mathrm{I}} = \left(\frac{3\cos(15°) - 1\cos(51°)}{3\cos(15°) + 1\cos(51°)}\right)^2$$

$$\approx \left(\frac{3 \cdot 0.966 - 0.63}{3 \cdot 0.966 + 0.63}\right)^2 \approx 64\%$$



$$\frac{\sin(15°)}{c_1} = \frac{\sin(\theta_2)}{3c_1}$$