$$\sin(\alpha_1) = \frac{v_1 \Delta t}{AB}$$

$$\sin(\alpha_2) = \frac{v_2 \Delta t}{AB}$$

$$\frac{\sin(\alpha_1)}{\sin(\alpha_2)} = \frac{v_1}{v_2}$$

$$\text{speed of wave } v_1 = \frac{v}{n_1}$$

$$\frac{\sin(\alpha_1)}{\sin(\alpha_2)} = \frac{n_2}{n_1}$$