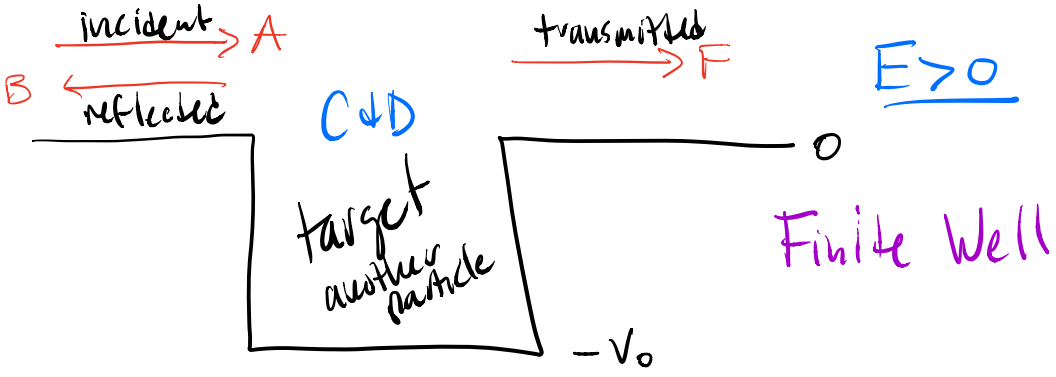


$$T = \frac{|F|^2}{|A|^2} = \left[\frac{1}{1 + \frac{(k_1^2 - k_2^2)}{4k_1k_2} \sin^2(2k_2a)} \right] \leftarrow$$

$$R = \frac{|B|^2}{|A|^2} = \left[\frac{1}{1 + \frac{4k_1^2k_2^2}{(k_1^2 - k_2^2)\sin^2(2k_2a)}} \right] \leftarrow$$

where

$$k_1 = \sqrt{\frac{2mE}{\hbar^2}} \qquad k_2 = \sqrt{\frac{2m(E+V_0)}{\hbar^2}}$$

1) $E \simeq 0$ $\quad k_1 \to 0$ $\quad k_2 \to \sqrt{\frac{2mV_0}{\hbar^2}}$

$R \to 1$ $\quad T \to 0$

$k_1/k_2 << 1$

2) E large k_1 large k_2 large)) equal(ish)

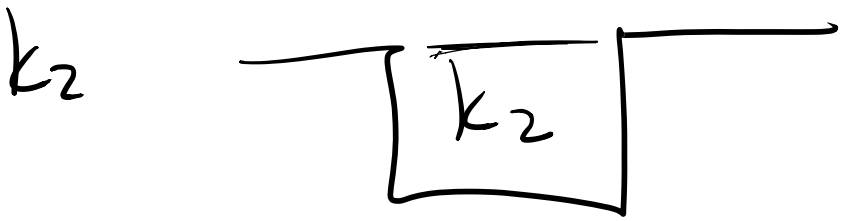
$T \to 1 \quad R \to 0$

3) $2k_2 a = n\pi$?

$\sin^2(n\pi) = 0$

$T = 1 \quad R = 0$ 100% Chance of transmission?

Energy Resonance



$k_2 = \frac{2\pi}{\lambda_2}$ $\frac{4\pi}{\lambda_2} a = n\pi$

E

$$2a = \frac{\lambda_2}{2}$$

perfectly cons. interference