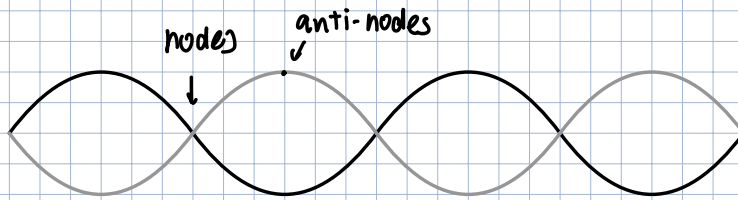


Standing Wave (fixed pattern)



Terms

→ Nodes (nothing there)

→ Antinodes (motion)

→ Wavelength

→ amplitude

→ period

→ longitudinal

→ particle motion in direction
of energy transfer

→ transverse wave

→ particle motion perpendicular
of energy

→ Frequency

→ Torsional

→ motion in rotation around
~ energy

$$C = \text{light speed} = 3 \times 10^8 \text{ m/s}$$

Wave Equation

$$V = f\lambda \quad \text{"F=ma" of waves}$$

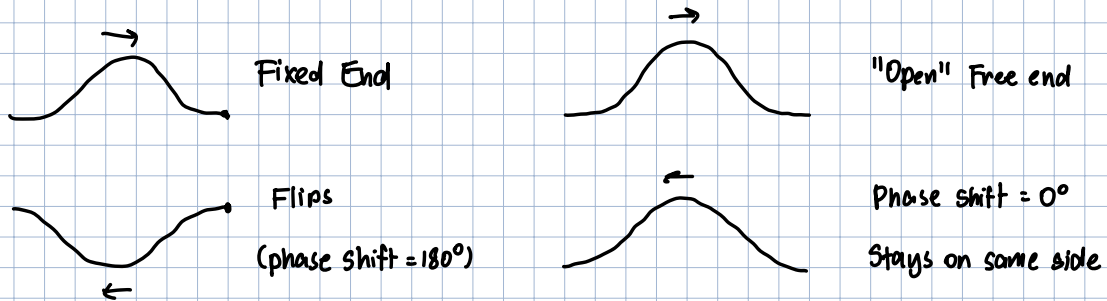
Light has wavelength of 633 nm
what is frequency

$$V = f\lambda$$

$$3 \times 10^8 = f(633 \times 10^{-9})$$

$$f = 4.74 \times 10^{14} \text{ Hz}$$

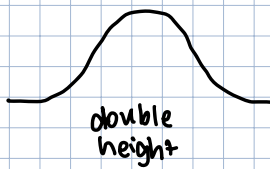
Reflections



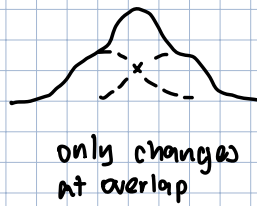
Interference



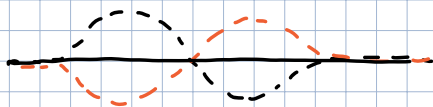
a) Full overlap



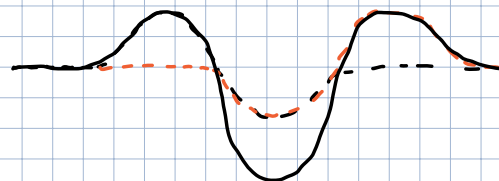
b) half overlap



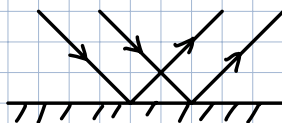
a) Full overlap



b) Half overlap



Specular reflection
"constant" reflection



Diffuse reflection
scattered reflection

