

~~16~~  
EXP  
EE  
 $\times 10^{10}$

a)  $f = 800 \text{ Hz}$

$$v = f \lambda$$

$$\frac{5.96 \times 10^3 \text{ m/s}}{800} = \left( \frac{800 \text{ Hz}}{800} \right) \lambda$$

$$\lambda = \underline{7.45 \text{ m}}$$

b)  $v = 343 \text{ m/s}$

$$v = f \lambda$$

$$\frac{343 \text{ m/s}}{800} = \frac{800 \text{ Hz} \lambda}{800}$$

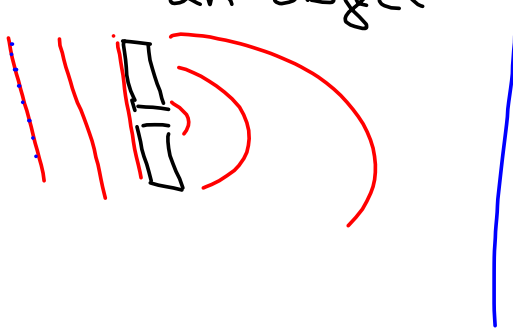
$$\lambda = \underline{0.429 \text{ m}}$$

c)  $v = f \lambda$   
 $5.96 \times 10^3 = f (0.300 \text{ m})$

$$f = 1.99 \times 10^4 \text{ Hz.}$$

## Wave Behaviours

Diffraction - the bending of a wave around  
an object

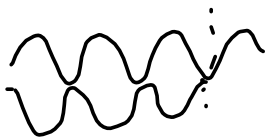
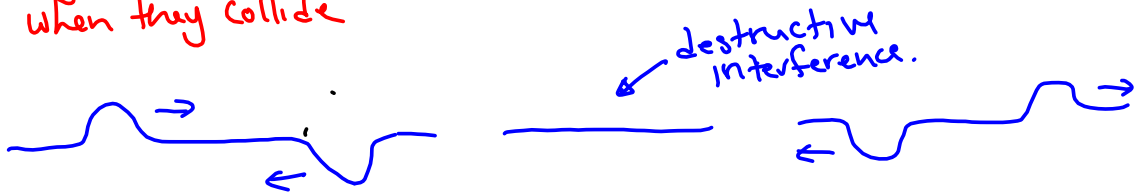


## Interference

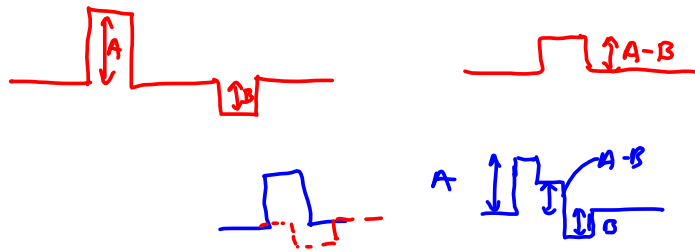
Constructive Interference - 2 (or more) waves add together to make a wave with larger amplitude when they collide




Destructive Interference - 2 (or more) waves add together to make a wave with smaller amplitude when they collide



**Principle of Superposition** - when 2 waveforms collide the resulting waveform's displacement from equilibrium is equal to the algebraic sum of the 2 waveforms at each point.



 <http://www.youtube.com/watch?v=ASd0t3n8Bnc&feature=related>

Homework: p. 162 #1-3  
Worksheet #11  
Read Section 8.3-8.4 (p. 354-370)