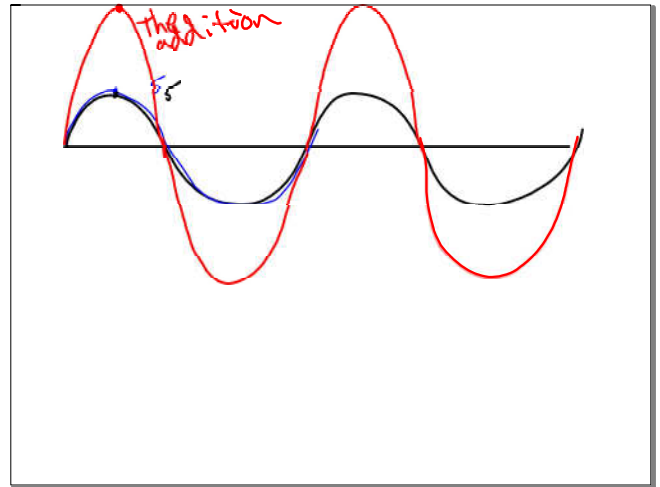


CP - Mar 15

CLT  $s_s$  will describe  
 Beats and Beat Frequency.  
 Also Sonar and speed of  
 sound in different materials.



Mar 15-8:22 AM

Mar 15-8:25 AM

<http://faraday.physics.utoronto.ca/PVB/Harrison/Flash/ClassMechanics/Beats/Beats.h>

Beat Frequency -  
 How many times, per second,  
 that a beat occurs.  
 A beat is where the two  
 waves cancel each other  
 momentarily. *beat*

~~destructive interference~~  
 Destructive interference  
 Constructive interference is  
 where the two waves add  
 to become more.

Example:

a. you have 300 Hz and  
 303 Hz? what is the  
 beat freq? 3 Hz

b. you have 300 Hz and  
 297 Hz?  
 3 Hz

Mar 15-8:27 AM

Mar 15-8:41 AM

Speed of sound in

air  $343 \frac{\text{m}}{\text{s}}$

water  $1500 \frac{\text{m}}{\text{s}}$

steel  $5000 \frac{\text{m}}{\text{s}}$

SONAR

Sound  
Navigation - Finding your  
way

And  
Ranging - Finding distance

Mar 15-8:43 AM

Mar 15-8:53 AM