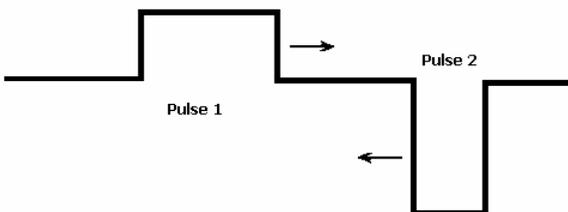


Name:				Thursday, June 18, 2009	
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1. Sketch the resultant wave form when the following two pulses meet. (Assume the meeting point corresponds to the centre of each pulse.) [ku:2]



2. A standing wave with five loops is generated in a string. If the waves travel at 17.5 m/s with a frequency of 1.40×10^2 Hz, how long is the string? [ku:4]
3. An air column (fixed at one end) is caused to resonate at the 3rd harmonic. If the air temperature is 20°C and the frequency of the sound is 220 Hz. Determine: [ku:6]
- The length of the tube
 - The frequency of the first harmonic for that tube
4. A tuning fork with a frequency of 512 Hz is struck at the same time as a guitar string. If 24 beats are heard in 6.0 s, find the possible frequency or frequencies of the guitar string. [ku:3]
5. A train with a blowing whistle that has a frequency of 550 Hz is traveling at a speed of 80 km/h towards a railway crossing where a car waits behind the barrier. If the speed of sound is 345 m/s, what is the frequency of the sound that reaches the car as the train approaches the crossing? [ku:4]
6. A sound technician measures the intensity of full-on rock show at a distance of 12.0 m from the *mains* (def: the main speakers that provided the majority of the sound at the front of house). If the meter reads 112 dB determine [ku:8]
- The intensity of the sound at that position in W / m^2
 - The sound power of the speakers in Watts
 - The sound intensity in W / m^2 and dB at a distance of 1.0m