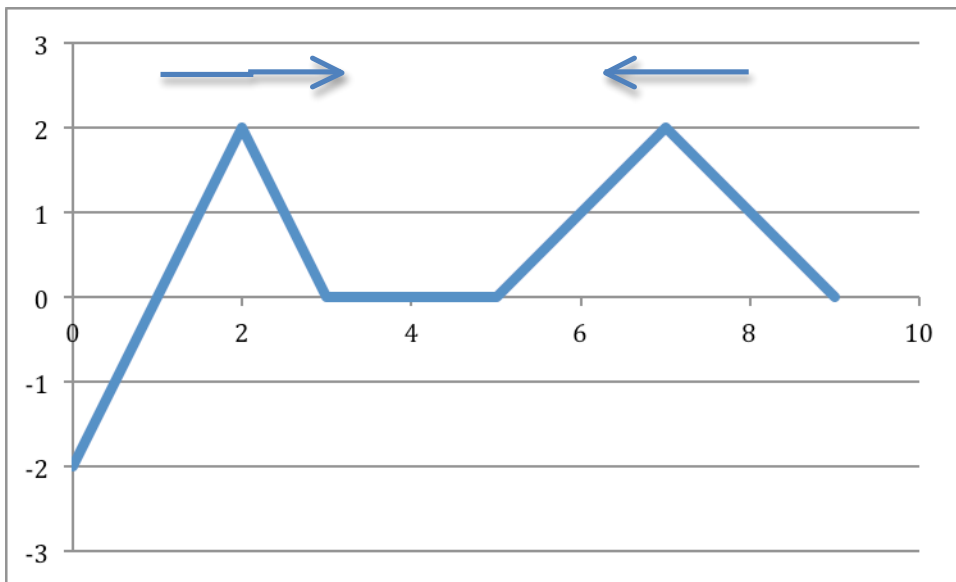
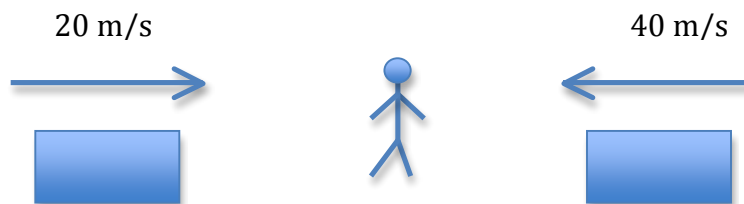


Wave Review

1. Ocean swells were separated by 450 m and were coming every 12.5 sec. Find the wave speed. Find the wave speed.
2. Sonar waves produced by a dolphin move at 1560 m/s. Find the wavelength if the dolphin produces 45 waves in 1 sec.
3. The speed of sound is 344 m/s. A boy dropped a stone into a deep well and 10.4 sec later he heard a splash. How deep is the well?
4. The waves shown below are moving at 1 m/s and will collide soon. Find the position of point A at $t = 1, 2, 3,$ and 4 sec.



5. Draw the combined waveform after 3 sec.
6. A bee is humming along at 20 m/s toward an observer who hears a hum of 300 Hz. What frequency would the observer hear if the bee were at rest?
7. Two police cars, each with sirens blaring at 600 Hz approach a pedestrian from opposite sides. How many beats does the pedestrian hear?



8. The pedestrian in #7 now runs toward the slower car at 5 m/s. How many beats does he hear now?

Wave Review

9. A speaker system is playing 860 Hz out of speakers separated by 1.6 m. A listener 75 m away is at the central max.
- How far must he walk to get from the 2nd to the 3rd max?
 - If he walks from the central max to $+\infty$ how many maximums will he hear (including central)?
 - How far apart are the 1st maximums on opposite sides of the central max?
10. Use the same set-up as #9 but now the frequency of the tone has changed so that the observer hears the 6th max after walking 12 m from central. Find the wavelength and the frequency.
11. First max occurs at A. Find the wavelength and frequency.

