

Example 1 (Parallel Exercise Group B #19)



- 1) A 600 Hz sound has a velocity of 1,087 ft/s in the air and a velocity of 4,920 ft/s in water. Find the wavelength of this sound in
- a) Air and
 - b) Water

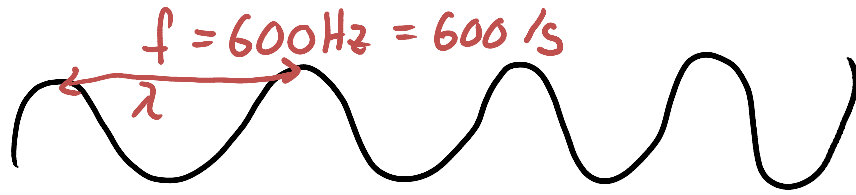
$$a) \frac{v}{f} = \frac{f \lambda}{f}$$

$$\frac{v}{f} = \lambda$$

$$\lambda = \frac{v}{f}$$

$$\lambda = \frac{1087 \text{ ft/s}}{600 \text{ s}}$$

$$\lambda = 1.8 \text{ ft}$$



air Speed $v = 1087 \text{ ft/s}$

Water Speed $v = 4920 \text{ ft/s}$

$$b) \lambda = \frac{v}{f}$$

$$\lambda = \frac{4920 \text{ ft/s}}{600 \text{ s}}$$

$$\lambda = 8.2 \text{ ft}$$