

Ch 12 #1-2

Even though these are problems about waves, and wave speed is typically found with $v=f\lambda$, remember that speed also *always* means $v=x/t$.

So for these echo problems, you can find distance (x) with speed and time, as long as you realize that the time given to you is the time for the wave to travel a distance of $2x$, because echoes are heard after they travel to a surface and travel back from that surface.

Ch 12 #29

- Pt A:** Find v for the wave on the string ($v=481.8\text{m/s}$), and then use this same v with a new length of string.
- Pt B:** Since you know v and f , finding λ should not be difficult.
- Pt C:** Here's an **IMPORTANT** idea... When a wave on a string causes a sound wave in air, the frequency of the sound wave is *always equal* to the string's frequency. But the wavelength of the sound wave will usually be *different*, since v of sound in air is different than v of waves on strings.