

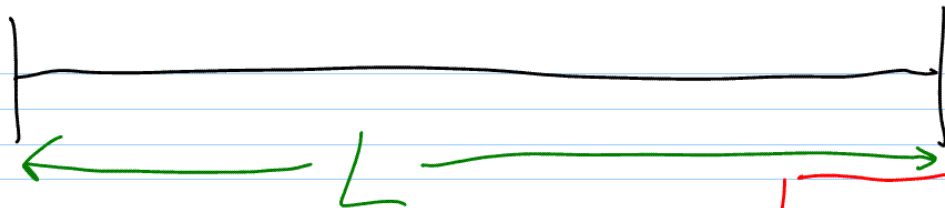
Answer to one of last day's paper airplanes:
The stuff about waves being reflected from discontinuities or boundaries is from Section 21.3. There is a nice diagram in Figure 21.8, pg.652.

Principle of superposition:

One wave produces disturbance D_1
Another wave produces disturbance D_2
at same place and time, then
net disturbance is:

$$D = D_1 + D_2$$

Standing Waves on a string.



speed of waves on string:

$$v = \sqrt{\frac{T_s}{\mu}}$$

$m =$ some integer.

(# of antinodes)

fundamental frequency:

$$f = \frac{v}{2L}$$

Column of air (or propane)



pressure waves (sound).

Closed end: forces particles to stay still at end:

forced node of longitudinal oscillations.

2 closed ends.

$$f_m = \frac{m v}{2L}$$

Open end: force pressure at end to stay at constant ambient pressure in room:

force node in pressure wave

→ also a forced antinode in longitudinal wave.