Physics 8.03
Vibrations and Waves

Lecture 8
Boundary Conditions Applied to
Pulses and Waves

Last time: Wave Equation and its Solutions

- Waves → oscillations in space and time
  - $y(x, t)$
  - Transverse or longitudinal waves
  - Traveling or standing waves
- Solutions to wave equation
  - Pulses of arbitrary shape → $y(x, t) = f(x \pm v\,t)$
  - Harmonic pulses → $y(x, t) = y_0 \cos(k(x \pm v\,t) + \phi)$
  - Separable solutions