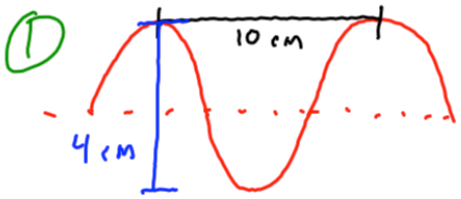
Pg. 619 #s 1-4

① 

a) Amplitude = $\frac{1}{2}(4) = 2$ cm
b) wavelength = 10 cm

② 2.5 m

③ $\lambda = 0.4$ m, $f = 10$ Hz

$V = f \cdot \lambda$

$= (10)(0.4)$

$V = 4$ m/s

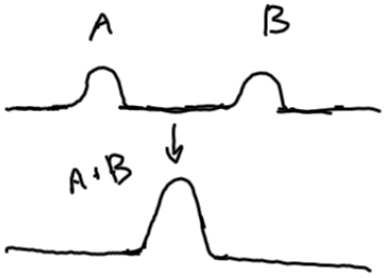
④ $\lambda = 1$ m, $V = 20$ m/s, $T = ?$

$V = f \cdot \lambda$

$f = \frac{V}{\lambda} = \frac{20}{1} = 20$ Hz

$T = \frac{1}{f} = \frac{1}{20} = 0.05$ s

Pg 619, #s 8, 9

⑧ 

This is constructive interference. It is constructing a larger wave.

⑨ ↑a → ↑ Volume of sound

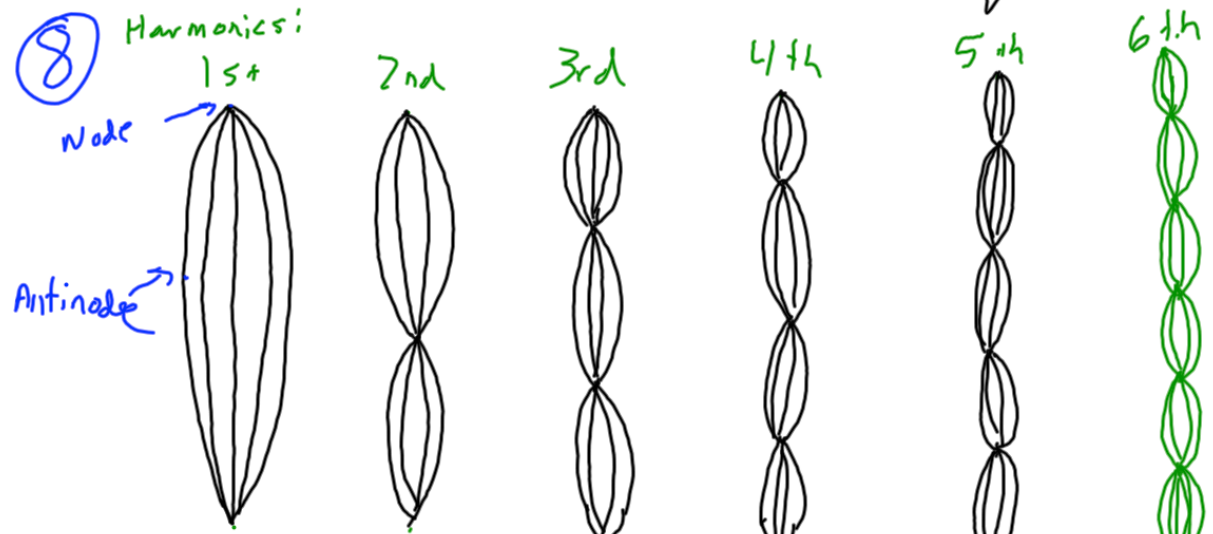
- There is a linear relationship between the two.

Pg 628, #s 16-19

16. Destructive Interference
17. Constructive Interference
18. Longitudinal Waves
19. Transverse waves

Pg 627, #8

8. Harmonics:



a) $\frac{1}{2}\lambda$ 1λ $1\frac{1}{2}\lambda$ 2λ $2\frac{1}{2}\lambda$

b) 2 Nodes, 1 Anti-Node | 3, 2 | 4, 3 | 5, 4 | 6, 5

Pg 630

5) $v = \lambda \cdot f$

$v = 2m\ (10Hz)$

$\boxed{V = 20\ m/s}$

6) $v = \lambda \cdot f$

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

$\lambda = \frac{4100\ m/s}{200\ Hz}$

$\boxed{\lambda = 2m}$

7) $f = \frac{waves}{Time}$

$30Hz = \frac{waves}{30s}$

$1900\ waves$

8)

$V = \lambda \cdot f$

$V = 8 \cdot 10 = 80\ m/s$

11) a) 4th

b) 2 waves

c) 1m