

3. $V = \lambda f$
 wavelength λ frequency f


4. light
 amplitude


5.

22.

25.

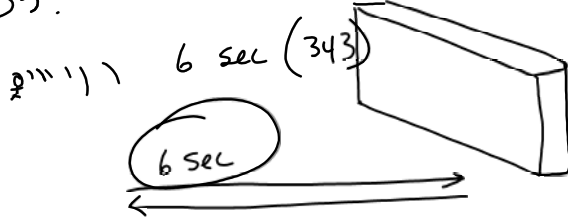
3 sec
 $V = 1500 \frac{m}{s}$
 $V = \frac{d}{t}$
 $d = Vt$
 $= 1500 \frac{m}{s} \cdot 3s$
 $4500m$
 round trip
 2250m one way



28. $f = 512 \text{ Hz}$ $v = \lambda f$
 $v = 343 \frac{\text{m}}{\text{s}}$
 $\lambda = \frac{v}{f} = \frac{343 \frac{\text{m}}{\text{s}}}{512 \text{ Hz}}$ 
.67 m

29. $f = 320 \text{ Hz}$
 $\lambda = 1.34 \text{ m}$
 $v = \lambda f$
 $= (1.34 \text{ m})(320 \text{ Hz})$
 $= 428.8 \frac{\text{m}}{\text{s}}$

35.



$6 \text{ sec} (343)$
 $3 \text{ sec} (343 \frac{\text{m}}{\text{s}}) = \text{span style="border: 1px solid black; padding: 2px;">1029 m$

38. $700 \frac{\text{m}}{\text{s}}$ $\text{mach} = 343 \frac{\text{m}}{\text{s}}$
 $\frac{700}{343} = \text{span style="border: 1px solid black; border-radius: 50%; padding: 5px;">Mach 2.04$

39.

	if increased
length	Lower
Tension	Higher
density	Lower