

?

2.

1.1

,

1.2

$$v = f \lambda \quad (v : \text{velocity}, f : \text{frequency}, \lambda : \text{wavelength})$$

$$y = A \sin 2\pi \left(\frac{x}{\lambda} - \frac{t}{T} \right) \quad (y : \text{displacement})$$

1.3

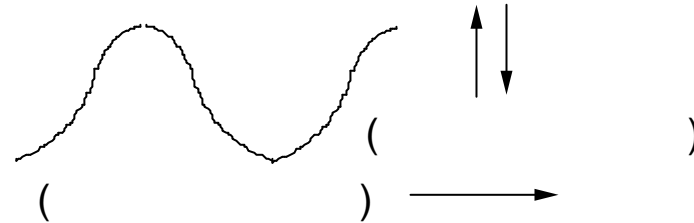
1) : ()

2) : " "

() \longleftrightarrow



() \longrightarrow



?

2. (周波數, frequency, f)

, 1

cycles/sec

Hz

3. (週期, period)

가

$$T, f, \\ T = 1 / f$$

v

4. (波, wave)

가
가

가

가

가

5. (波長, wavelength)

v,

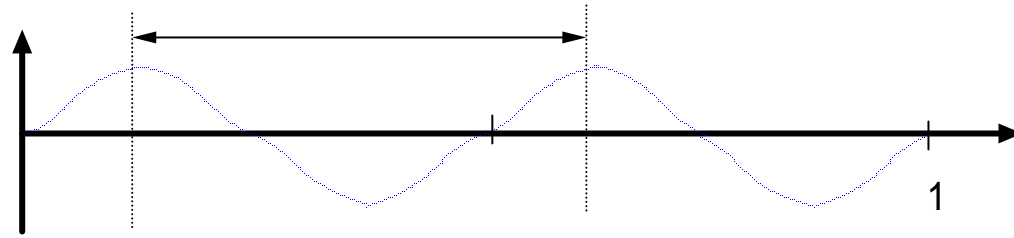
f

가

;

$$= v / f$$

?



: 1 2

2Hz

:

1/2 Hz

0.5

:

3cm/sec

$$= v / f$$

$$= 3 / 2$$

$$= 1.5\text{cm}$$

25.7KHz,

20

1483m/s

가

,

?

!.

?

2.1

, , ,

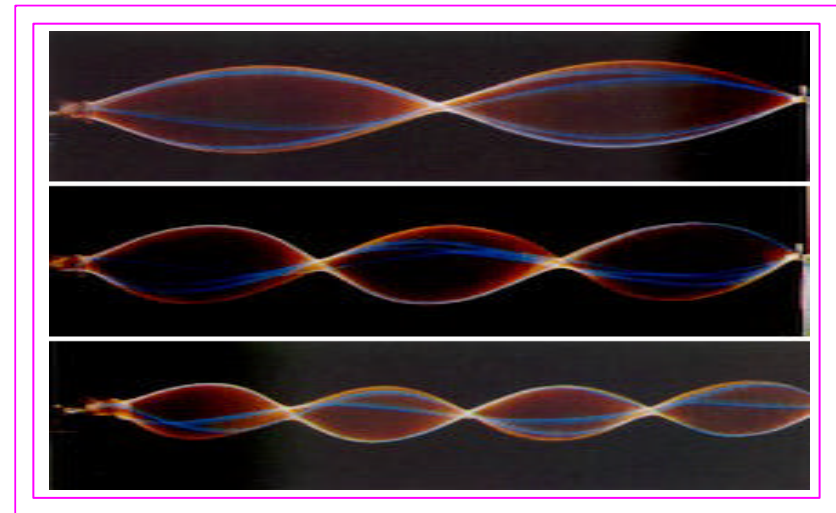
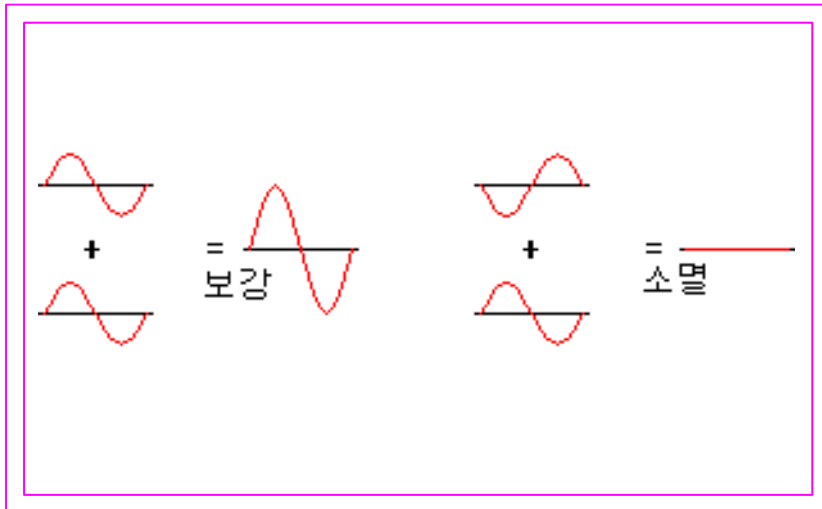
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:

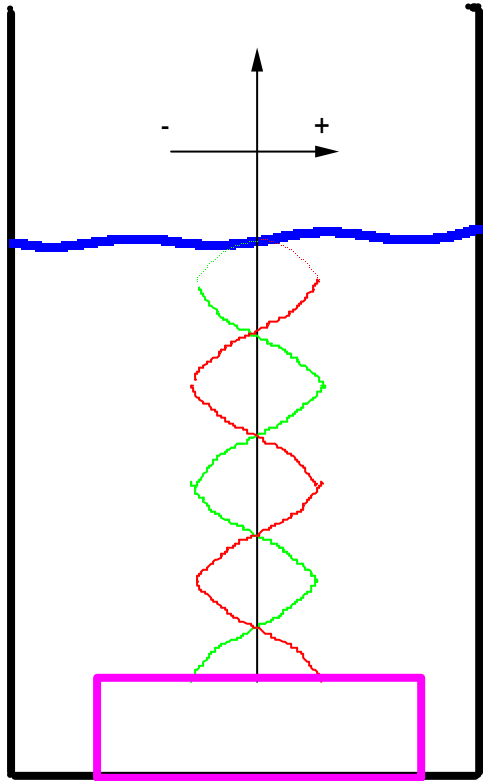
,

가



?

2.2



1

2

2

1

$$Z = C \left(\frac{\rho \cdot c}{\rho \cdot c} \right) = C$$

$$Z = 0.1483(20)$$

$$Z = 0.0000412(20)$$

$$= \frac{Z_-}{Z_+} - \frac{Z}{Z}$$

0.9999445

$$= \frac{2 \times Z}{Z_+} - \frac{Z}{Z}$$

0.000555

가