Wave $v = 12 \, {}^m/_s$

$T = 3s$

- Amplitude 2

- Wavelength 36m

- Frequency $f = \frac{1}{3s} = \frac{1}{3} Hz$

$$v = \lambda f \rightarrow \lambda = \frac{v}{f}$$

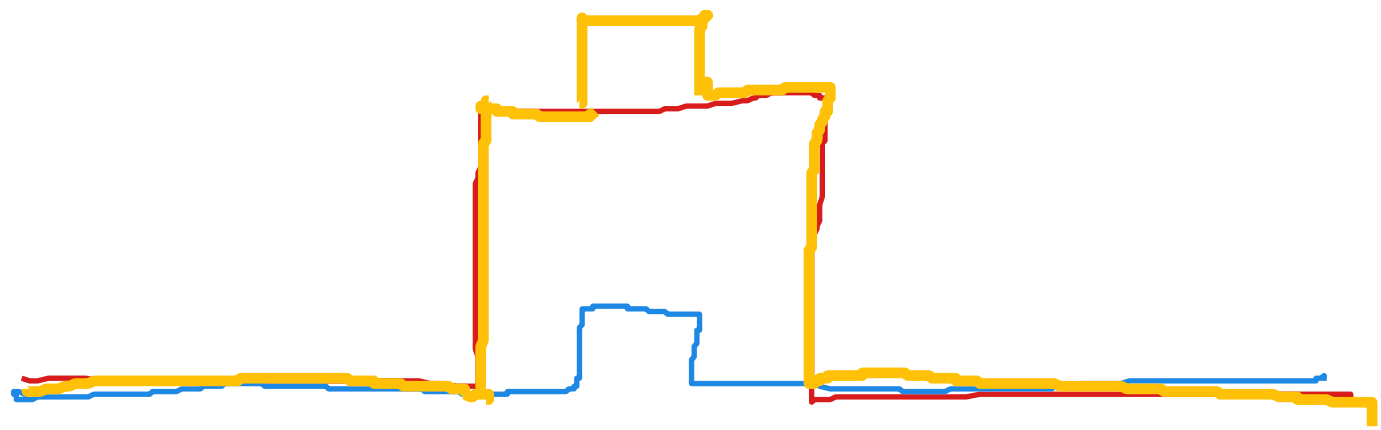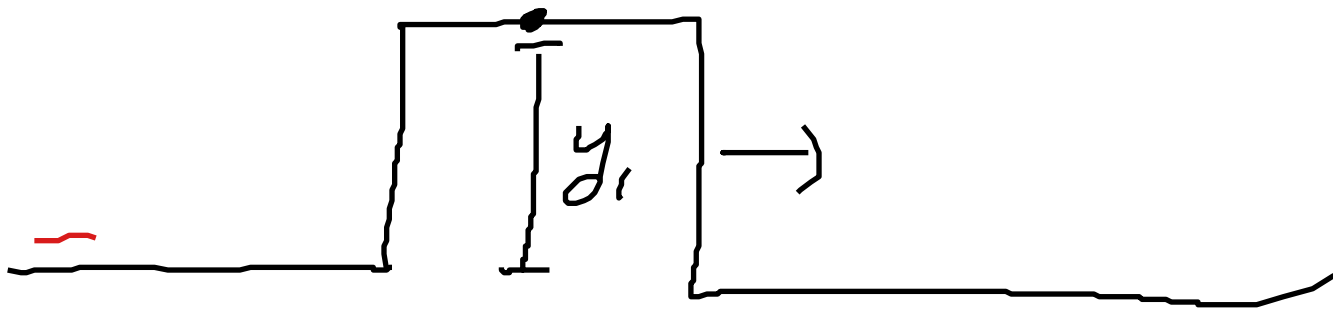$$\lambda = \frac{12}{1/3} = 12 \times 3 = 36m$$

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

$$\rightarrow \lambda = vT = (12)(3) = 36 \, ^m/_s$$

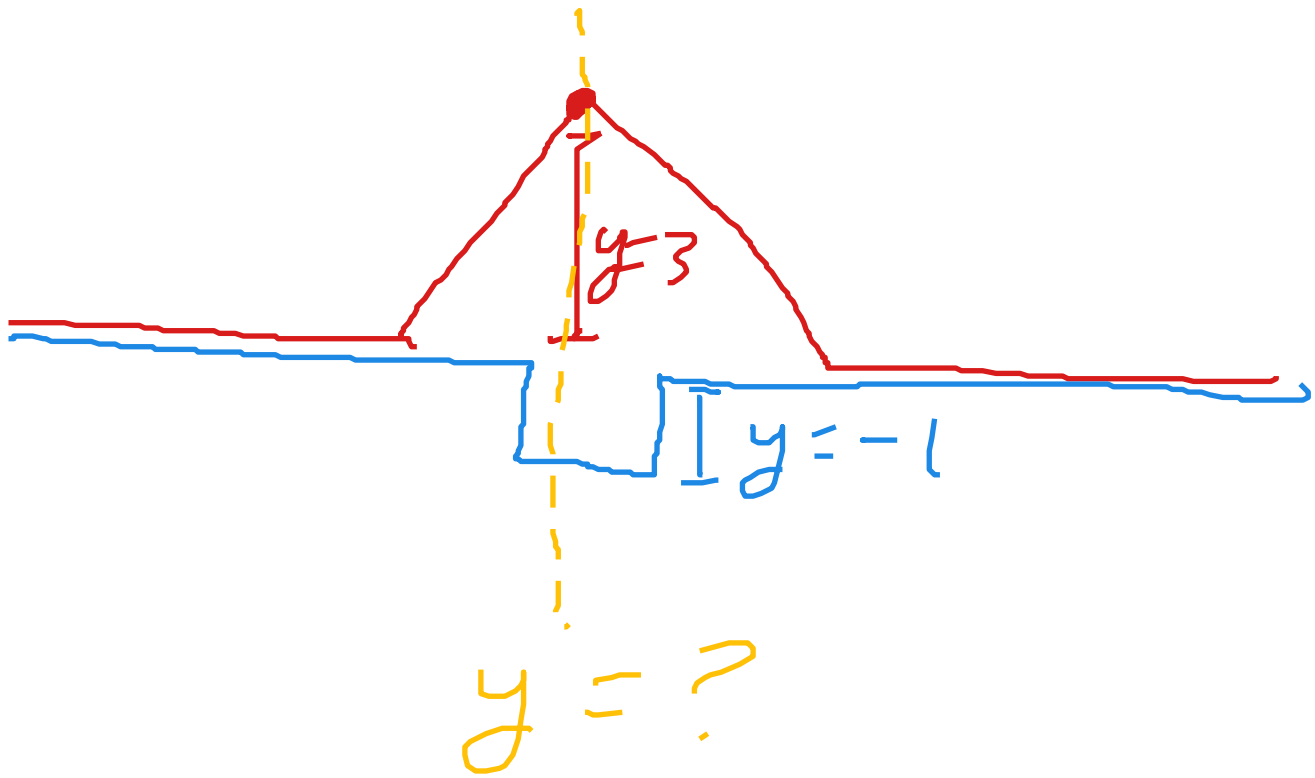Waves (& pulses)
pass right through each
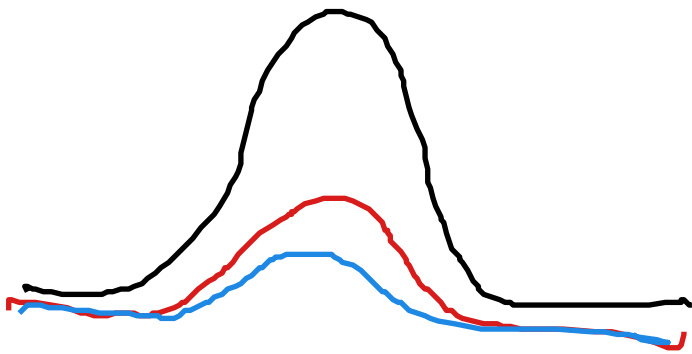other

When they overlap →
  "interference"
  "superposition"

$$y_1 \longrightarrow$$

$$\longleftarrow \quad y_2$$

At any point, displacement

is $y = y_1 + y_2 + \cdots$
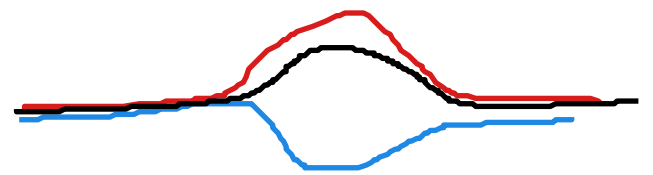
$$y = 3$$

$$y = -1$$

$$y = ?$$

$$y = +3 + (-1)$$

$$= 2$$

Two pulses
same side
bigger result
constructive interference

destructive
interference
(smaller)