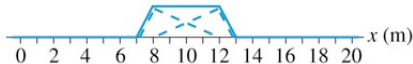
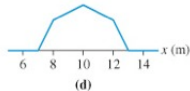
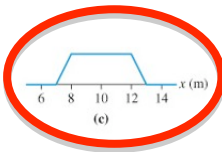
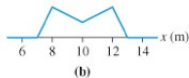
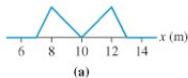
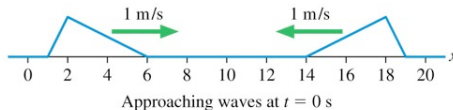


Question:

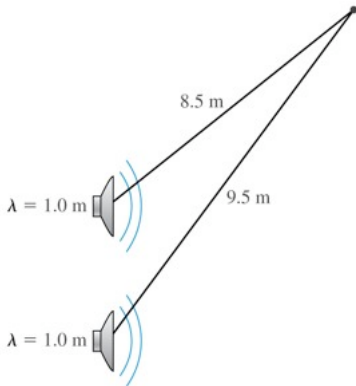
Two pulses on a string approach each other at speeds of 1 m/s .
What is the shape of the string at $t = 6\text{ s}$?



Question:

These two loudspeakers are in phase. They emit equal-amplitude sound waves with a wavelength of 1.0m . At the point indicated, is the interference maximum constructive, perfect destructive or something in between?

- (A) perfect destructive
- (B) *maximum constructive*
- (C) something in between

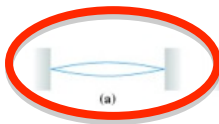


Original standing wave



Question:

A standing wave on a string vibrates as shown at the top. Suppose the tension is quadrupled while the frequency and the length of the string are held constant. Which standing wave pattern is produced?



(a)



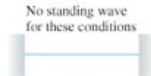
(b)



(c)



(d)



No standing wave
for these conditions

(e)

Question:

An open-open tube of air supports standing waves at frequencies of 300Hz and 400Hz , and at no frequencies between these two. The second harmonic of this tube has frequency

- (A) 800Hz
- (B) 200Hz
- (C) 600Hz
- (D) 400Hz
- (E) 100Hz

Question:

You hear three beats per second when two sound tones are generated. The frequency of one tone is known to be 610Hz . The frequency of the other is

- (A) 604Hz
- (B) 607Hz
- (C) 613Hz
- (D) 616Hz
- (E) *Either b or c*