

Date: _____

Name: _____

Interference Worksheet

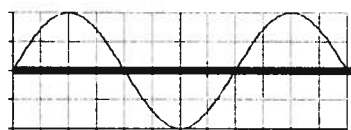
1. On the diagram to the right:

- label the nodes and antinodes
- What is its wavelength if the distance between nodes is 2m?
- If the person is shaking her hand up and down 12 times per second, what is the wave velocity?

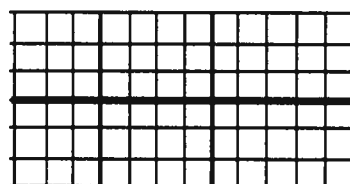
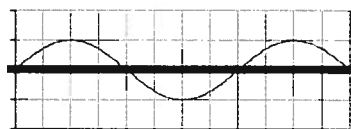


2. In each set of waves below, the two waves on the left represent two waves traveling at the same time. You are to combine the two waves and show the results at the right.

a.



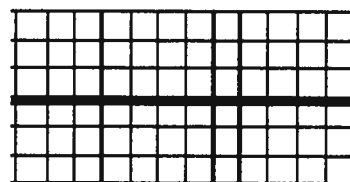
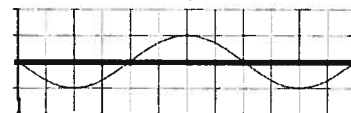
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b.

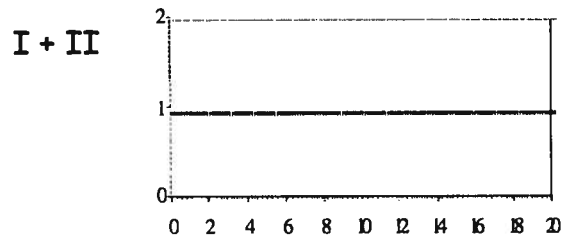
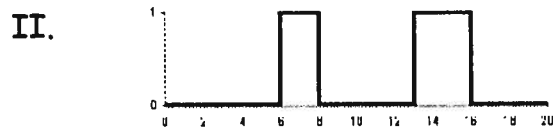
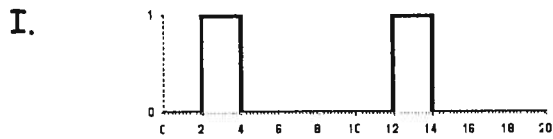


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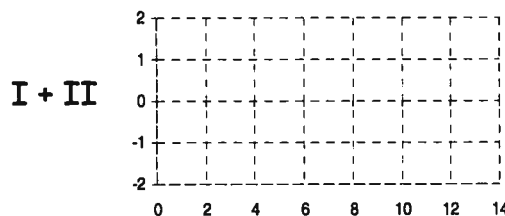
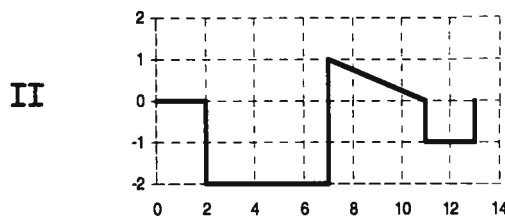
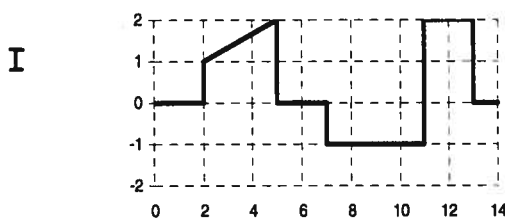


- In 2a, _____ (constructive or destructive) interference produces a _____ (louder or softer) sound.
- In 2b, _____ (constructive or destructive) interference produces a _____ (louder or softer) sound.

3. The waves shown in the diagram below are square pulse waves. If wave I meets wave II, show their superposition on the line below:



4.



5. Use the principle of superposition to determine the resulting pulse when the pulses shown are superimposed on each other. (The point of overlap should be at the horizontal midpoints of the pulses.)

