Answers

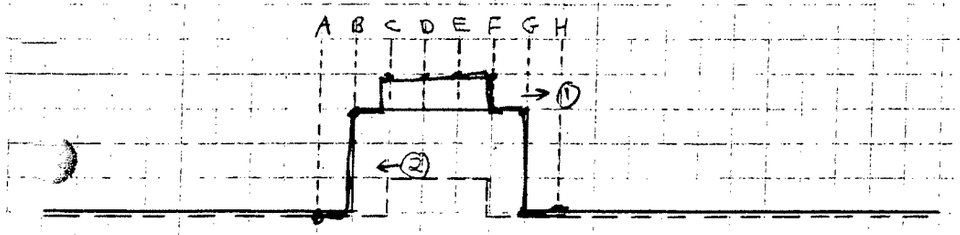
SUPERPOSITION PRINCIPLE: HOW TO USE IT

1. Measure the displacement of each individual wave at several points in the area where they are interfering with each other. Upward displacements are positive, downward displacements are negative.
2. Add the individual displacements at each point to get the displacement of the resulting wave.
3. use those resulting displacements to draw the resulting wave

EXAMPLES

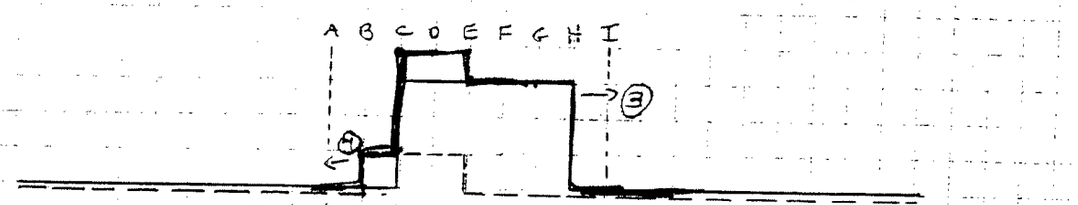
Displacement at points A-H

	A	B	C	D	E	F	G	H
Wave 1	0	3	3	3	3	3	3	0
Wave 2	0	0	1	1	1	1	0	0
Total	0	3	4	4	4	4	3	0



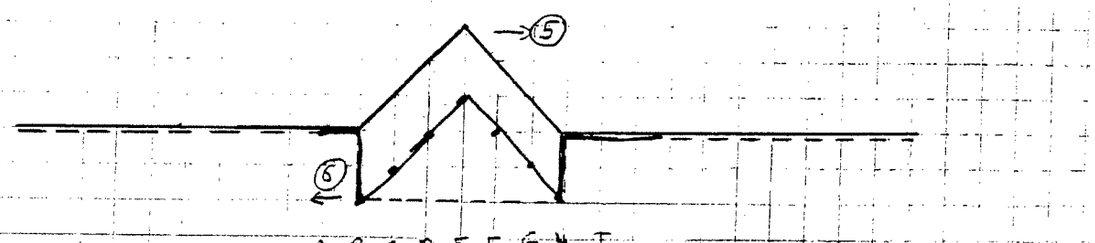
Displacement at points A-I

	A	B	C	D	E	F	G	H	I
Wave 3	0	0	3	3	3	3	3	3	0
Wave 4	0	1	1	1	1	0	0	0	0
Total	0	1	4	4	4	3	3	3	0



Displacement at points A-I

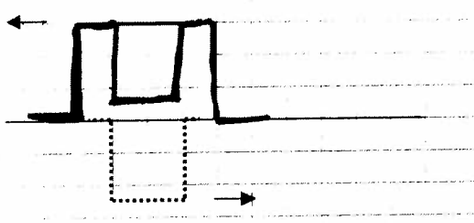
	A	B	C	D	E	F	G	H	I
Wave 5	0	0	1	2	3	2	1	0	0
Wave 6	0	-2	-2	-2	-2	-2	-2	-2	0
Total	0	-2	-1	0	1	0	-1	-2	0



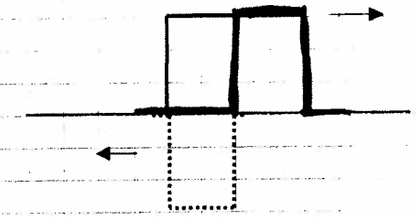
11 Physics **Graphical Superposition of Pulses** Date:_____

1. Two pulses travelling in opposite directions are travelling through a medium. Find the resultant displacement of the particles in the medium at the instant shown below

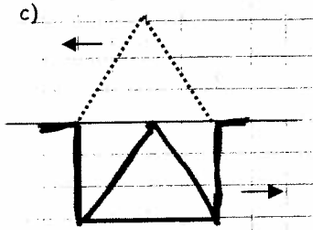
a)



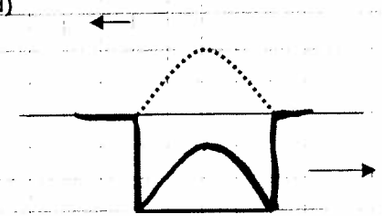
b)



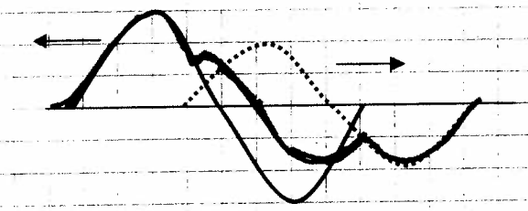
c)



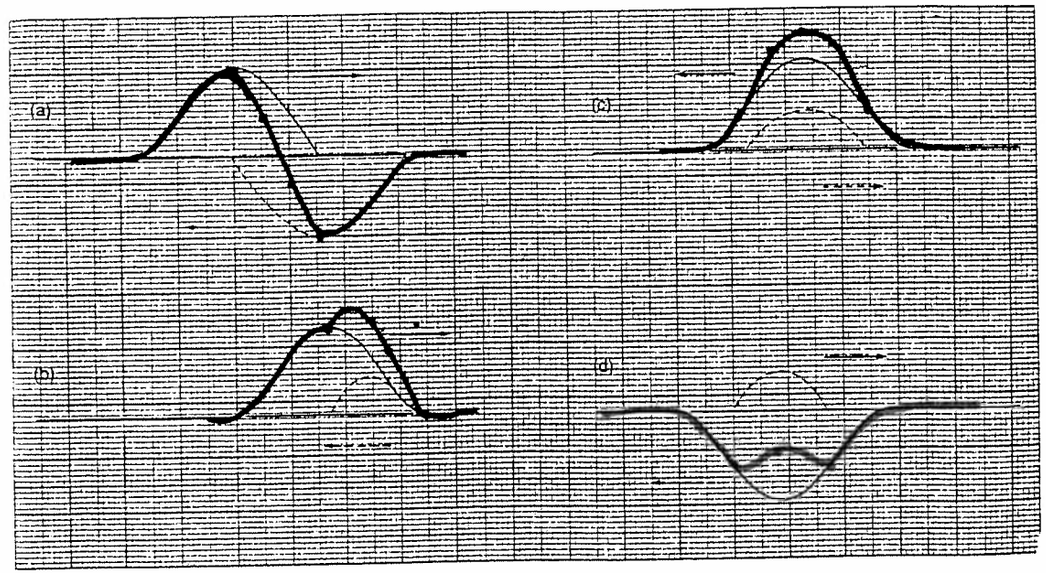
d)



e)



Trace the pulses illustrated into your notebook, and determine the resultant displacement of the particles of the medium at each instant, using the Principle of Superposition.



Trace the waves illustrated into your notebook and determine their resultant displacement.