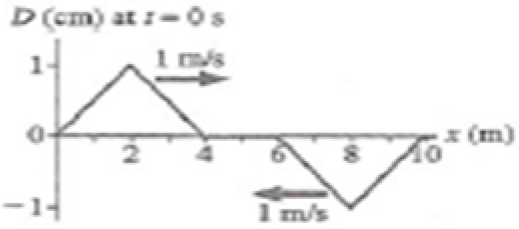
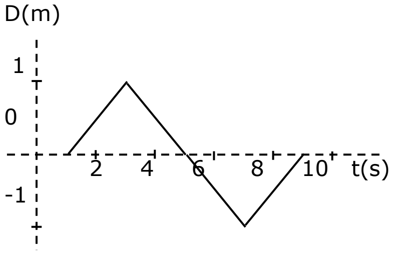
Q- Figure shows snapshot graph at t = 0 of two waves approaching each other at 1 m/s. Draw six snapshots graphs showing the string at 1 s intervals from t = 1 s to t = 6 s>

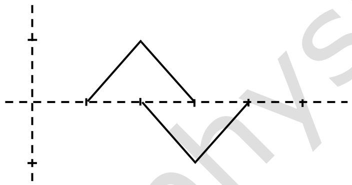


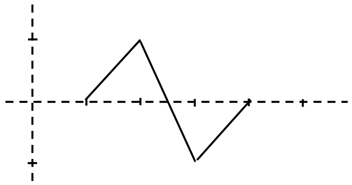
As the two waves are superimposed, the displacements of a particle of the string at any instant will be the vector sum of the displacements due to either wave. As the displacements are in the opposite directions, the magnitudes are subtracted and give the resultant magnitude. Accordingly the waves and their resultants are shown. The wave speeds are 1 m/s and hence in interval of 1 second each wave will travel a distance of 1 m. (The scales are the same for all figures)

At t = 1 s individual and resultant

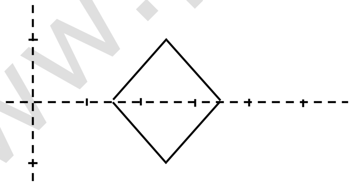


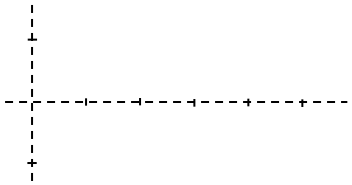
At t = 2 s individual Resultant



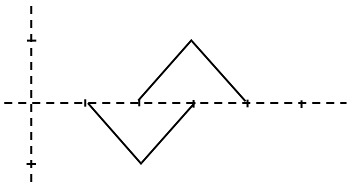


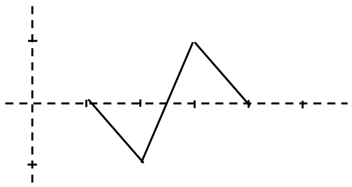
At t = 3 s individual Resultant





At t = 4 s individual Resultant





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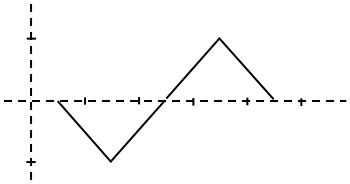
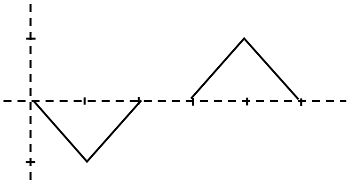
At t = 5 individual and Resultant



At t = 6 individual and Resultant



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