

## Problem Solving and Solution Writing Strategy

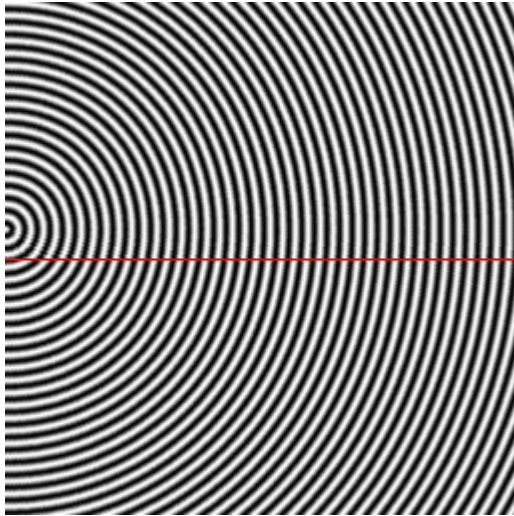
- 1) Restate the fundamental aspect of the problem and the essential physics ideas.
- 2) Draw a figure, write the related equations and identify quantities
- 3) Outline Solution
- 4) Execute Solution
- 5) Evaluate Solution

<http://groups.physics.umn.edu/physed/Research/MNModel/psintro.html>

## Principle of Superposition:

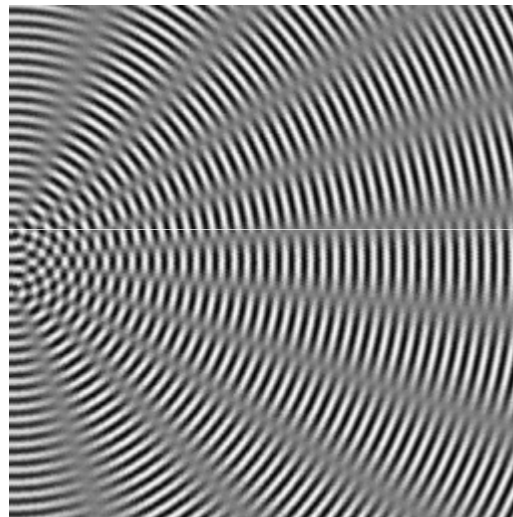
When two or more waves overlap, the resultant displacement at any point at any instant is found by adding the instantaneous displacements that would be produced at the point if the individual waves if each were present alone.

$E_1$

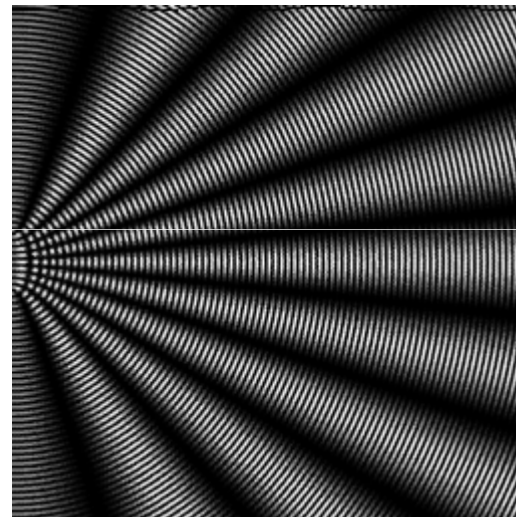


Coherent sources located at  $\pm d/2$

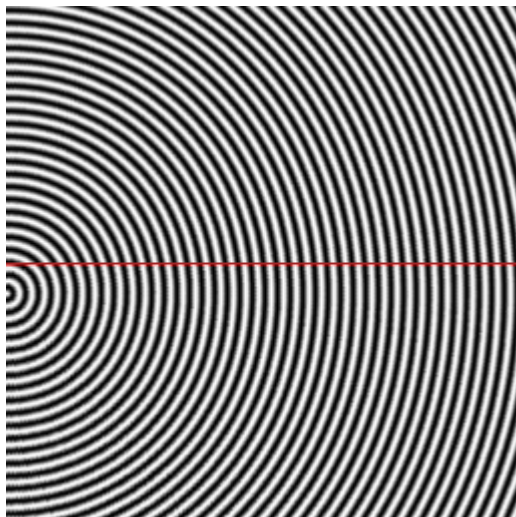
$E_1 + E_2$



$(E_1 + E_2)^2$



$E_2$



What happens if the two sources are moved further apart?

a) The angle between maxima increases.

b) The angle between maxima decreases.

c) Nothing

What happens if the wavelength of the light is decreased?

a) The angle between maxima increases.

b) The angle between maxima decreases.

c) Nothing