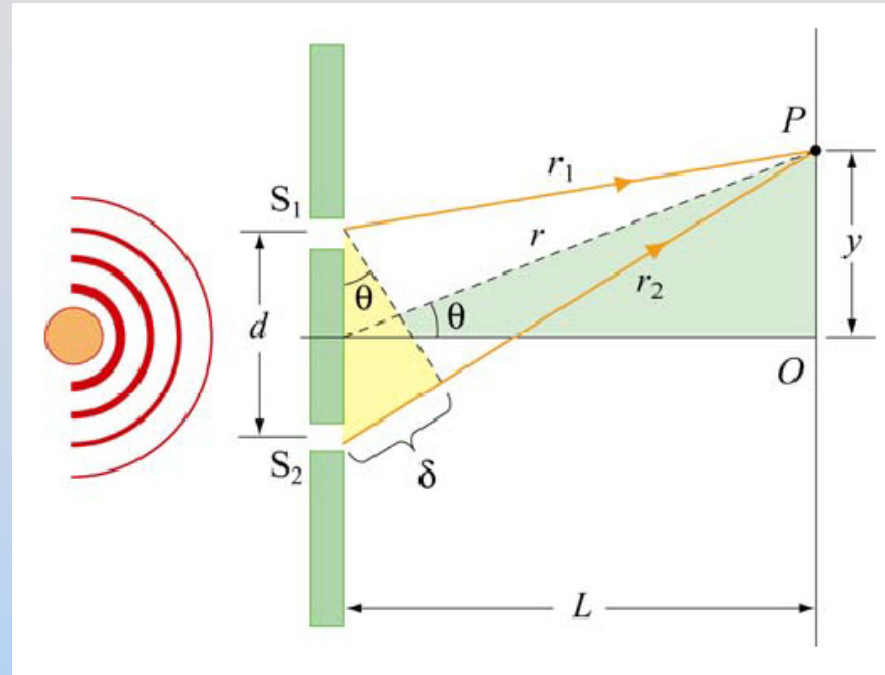


Concept Question: Double Slit

Coherent monochromatic plane waves impinge on two apertures separated by a distance d . An approximate formula for the path length difference between the two rays shown is

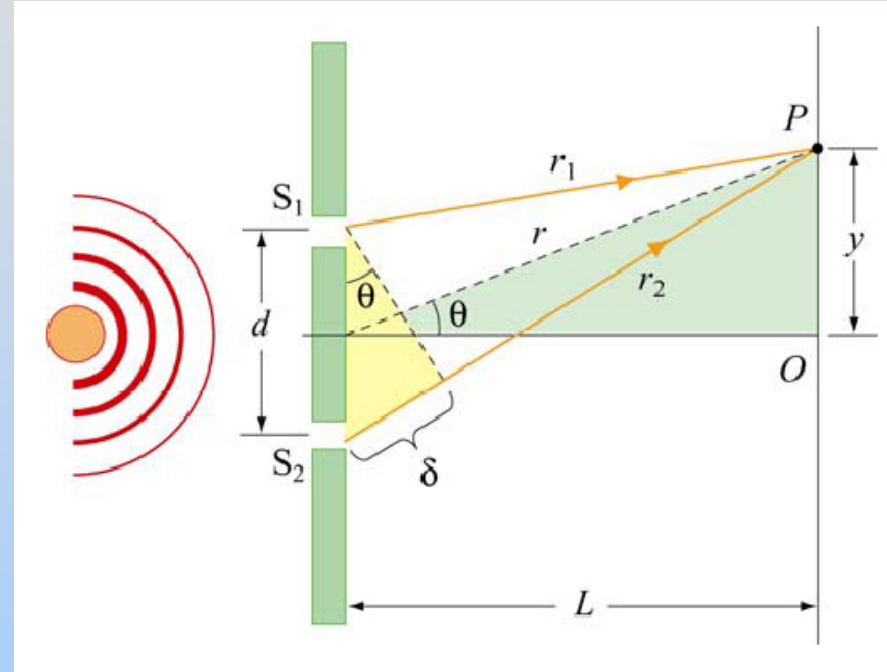


1. $d \sin \theta$
2. $L \sin \theta$
3. $d \cos \theta$
4. $L \cos \theta$
5. Don't have a clue.

Concept Q. Answer: Double Slit

Answer: 1. Extra path length $\approx \delta = d \sin \theta$

The difference between the two paths can be seen to have this value by geometrical construction (using the triangle shown in yellow).



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8.02SC Physics II: Electricity and Magnetism
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