

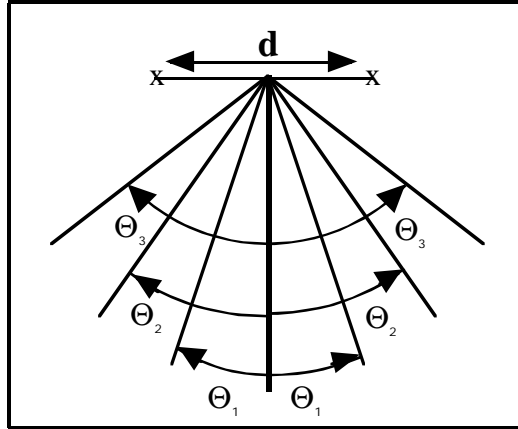
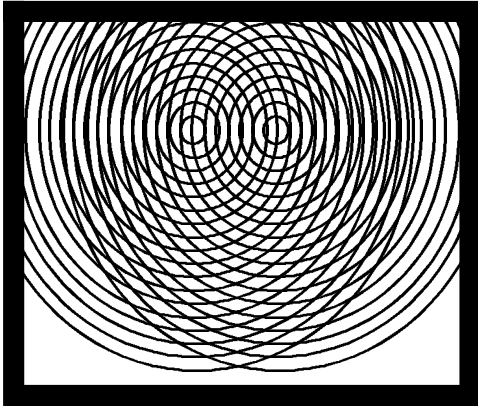
NAME _____

PERIOD _____

PHYSICS HOMEWORK QUIZ #17D

WAVE MOTION

Two point sources are generating waves that are in phase. The two sources are d apart as shown below and they are generating an interference pattern such that the second order antinode occurs at an angle of $\Theta_2 = 17.0^\circ$. The waves in this pattern have a frequency of 11.0 Hz. and a wavespeed of 65.0 cm/sec.



1. What is the **wavelength** of these waves? [3 pts]
2. What is the **distance d** between the two sources? [3 pts]
3. A what **angle Θ_3** will the **third order** antinode occur ? [3 pts]
4. What is the primary **difference** between points lying on the first order antinode and points on the second order antinode? [3 pts]
5. What is the **maximum order antinode** that can be produced by this system ? [3 pts]