

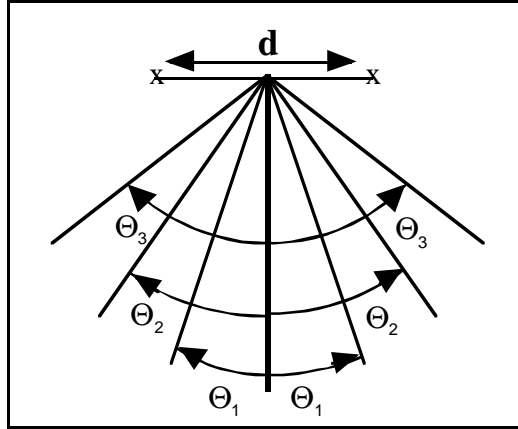
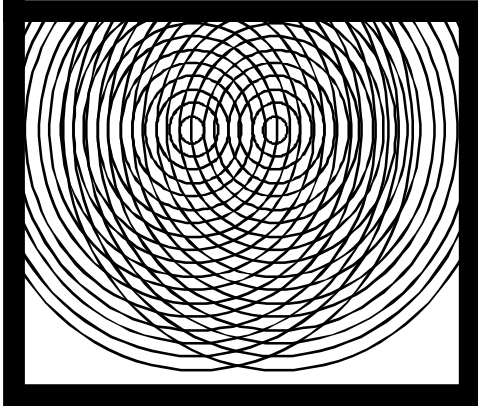
NAME \_\_\_\_\_

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  $\Theta_3$**  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]