

## (SW.L2.1) Familiarize Stage

Thursday, March 29, 2018 8:34 PM

### Familiarization Stage: Xx

#### Pre-lecture 2: General Two Source Interference

##### Reading

1. Read

##### Lecture Videos

1. Watch

##### Example Problems

1. Watch

##### Simulations

1. Sim

##### Other Suggested Content

1. Check out

##### Practice

1. Try

##### Homework

#### SW.L2.2-01

**Problem Statement:** When considering the interference between two spatially separated sources, what is the most important thing to consider?

(1) The Path Length Difference (PLD)

(2) Anything else

**Answer: (1)**

#### SW.L2.1-02

**Problem Statement:** A speaker is producing 440 Hz sound. Four other nearby speakers are producing sound. Which of the following speakers are said to be "coherent" with the first speaker?

(1) Speaker A producing 400 Hz sound

(2) Speaker B producing 220 Hz sound

(3) Speaker C producing 440 Hz sound

(4) Speaker D producing sound with a wavelength of 78 cm

Answer: (3)

### SW.L2.2-03

**Problem Statement:** Here are two different mathematical models used when determining extrema in two source interference.

Match each to the appropriate type of interference.

(1) $PLD = m \lambda$	A. Completely Constructive
(2) $PLD = \left(m + \frac{1}{2}\right) \lambda$	B. Completely Destructive

Answer: (1) - (A), (2) - (B)

### SW.L2.2-04

**Problem Statement:** A speaker is producing a 686 Hz frequency sound. If the speed of sound in air at room temperature is 343 m/s, what is the wavelength of the sound wave?

- |           |
|-----------|
| (1) 0.5 m |
| (2) 1.0 m |
| (3) 2.0 m |
| (4) 5.0 m |
| (5) 20 m  |

Answer: (1)