

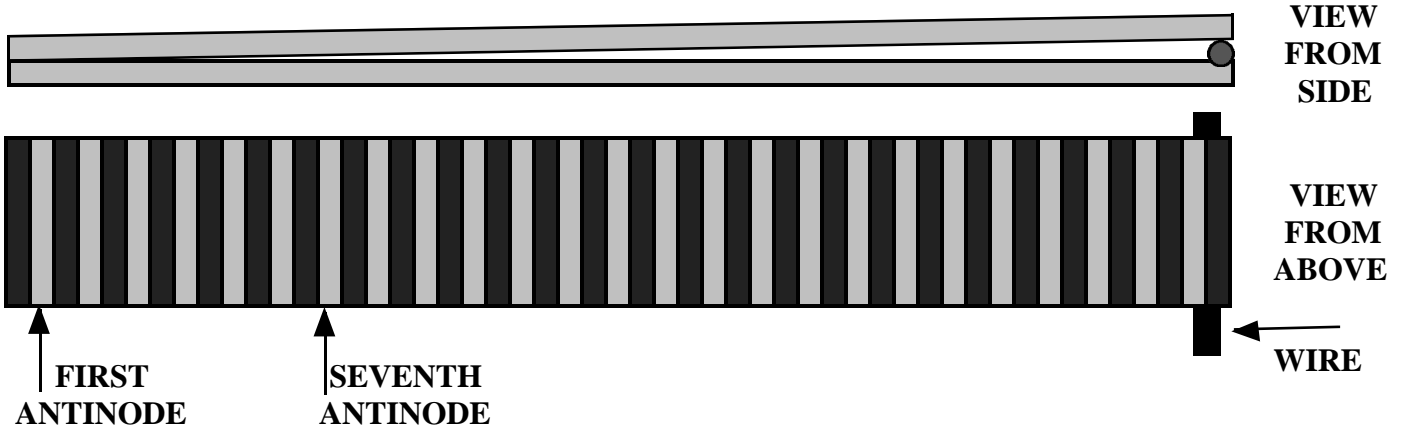
NAME \_\_\_\_\_

PERIOD \_\_\_\_\_

**PHYSICS HOMEWORK QUIZ #20D**

**WAVE PROPERTIES OF LIGHT**

Light, which has a wavelength of  $5400 \text{ \AA}$ , is used to illuminate a thin film of air from above. The thin film of air is a wedge of air between two long glass plates, which are  $12.0 \text{ cm}$  long, separated at one end by a thin wire which has a diameter of  $d = 0.15 \text{ millimeters}$ .



1. What will be the thickness of this film of air at the location of the first antinode ? [5 pts]
2. What will be the thickness of this film of air at the location of the seventh antinode ? [5 pts]
3. How many antinodes will there be along the entire length of these glass plates ? [5 pts]