PHYS 201
QUIZ # 3 & 4 (Make up)

Name: _____ ID # _____

1. The figure below shows two sources S_1 and S_2 emit light in phase and at a wavelength λ and the same amplitude. The sources are separated by distance d=6.07 on an x-axis. A viewing screen is a distance D=20.07 from S_2 and parallel to the y-axix. The figure shows two rays reading point p on the screen at light y_p. What is the value of y_p so that the two rays have third order minima.

2. A thin layer of oil (n=1.25) is floating on whater (n=1.33). How thick is the oil film so that it reflects green light (λ=550nm).

3. A candle is placed 50cm from a concave mirror that has a diameter of 140cm. Find the image position and the magnification of this mirror is the image real or virtual?

4. If the mirror of one arm of Michelson interferometer is moved along the arm by 0.30 mm, 900 fringes pass the field of view. What is the wavelength (in nm) of the light used?