

## QUESTIONS TO HAND IN – EXPERIMENT 14

NAME \_\_\_\_\_

LAB INSTRUCTOR \_\_\_\_\_ LAB DAY/TIME \_\_\_\_\_

1. The bright fringes we see in the interference pattern are locations where light waves (circle one) **constructively/destructively** interfere.
2. The interference equation predicts that the displacement of a fringe on the screen is greater for longer wavelengths. Which color will be displaced more, red or blue?
3. If it is true that two light waves are present at the location of a dark fringe but are simply half a wavelength out of phase, where is the energy of the waves?
4. A double slit interference pattern uses red light with  $\lambda = 650 \text{ nm}$ . The slits are  $1 \mu\text{m}$  apart. What is the angle  $\theta$  for the first order bright fringe?
5. A grating is to be used to determine the wavelength of red laser light. What information do you need to know and measure to get the result?