

Name: _____ Date: _____ Course: _____ Professor: _____

O14b Prelab: Measuring the Wavelength of Light using Diffraction



Read Lab instructions Before Answering Questions

1. In this lab you will be diffracting light with the pattern indicated by **Figure 5** in the instructions. The first thing you will need to determine is the origin point, if the distance between the direct ray and the reflected ray ($n = 0$) is 137.0 mm. What is the distance from the direct ray to your origin point?
2. According to your calculation on the previous question, what value are you expecting to have when you measure y_0 ?
3. Write the equation you will be using to determine the wavelength λ in this lab.
4. If you are given $x_0 = 2.1285 \text{ m}$ and $l = 0.000500\text{m}$ and you measure $y_1 = 0.113\text{m}$. Calculate the wavelength for y_1 . (Use the y_0 you are expecting to have on question #2)