Name: _____

Date: _____

Section C D F

The Masters School DOBBS
Mr. Alex Rawson
Physics

Diffraction II

1. Light of wavelength 440 nm falls on two slits spaced 0.31 mm apart. What is the angle between the first and second dark fringes?

2. A double-slit interference experiment is performed using blue light from a hydrogen discharge tube (λ = 460 nm). The fifth-order bright fringe in the interference pattern is 0.594° from the central maximum. How far apart are the two slits separated?

3. All but two gaps within a set of venetian blinds have been blocked off to create a double-slit system. These gaps are separated by a distance of 3.4 cm. Infrared radiation with a wavelength of 158 μm is then passed through the two gaps in the blinds. What is the angle between the central and the second-order maxima in the interference pattern?