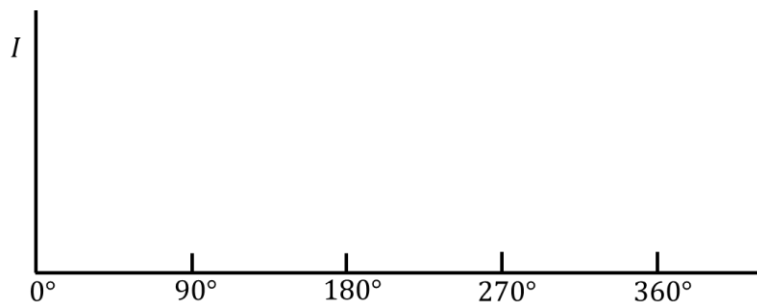


Name _____ Instructor name _____

You must show and explain all work neat and organized to receive credit. Please show each step for calculations. YOU MUST TURN IN THIS SHEET to have your assignment graded.

1. What is the difference between polarized and unpolarized light? (5 pts)

2. The light shines through two polarizers. Initially, both transmission axes are aligned, and then the second polarizer is rotated while the other remains fixed. Sketch the intensity of the transmitted light as a function of the angle through which the second polarizer is rotated. Please give a detailed explanation of your results. (6 pts)



3. Unpolarized light with an intensity of 22.4 lux passes through a polarizer whose transmission axis is vertically oriented. (a) What is the direction of the polarized beam and the intensity of the transmitted light?
(b) If the polarizer's transmission axis is at an angle of 69.0° with the vertical, what is the transmitted light's intensity and direction? (9 pts)