

## Physics 262

Homework #11

Show your work.

Read the safety label on the laser that we will be using for the laser light show, and then answer the following questions.

1. What class is the laser? What is the output power (W)?
2. Assuming a beam diameter of 2 mm, what is the output power density ( $\text{W}/\text{cm}^2$ )?
3. After what time interval is the maximum permissible exposure (MPE) reached?
4. The laser is projected onto the wall through a diverging lens. Among other things, this will make your movie bigger. How does this affect laser safety?