

Introduction to Telescopes Pre-lab

1. Read through the "Properties of a Telescope" section of the lab and answer these questions:

- i. How would the field of view of a telescope change if you were to switch from a 15-mm eyepiece to a 45-mm eyepiece? Would the field of view become larger or smaller? _____ By how much? _____ Explain your answer and SHOW YOUR WORK.

- ii. Which telescope has greater *light gathering power*: a 8-inch telescope or your unaided eye? Assume the pupil **diameter** of a dark-adapted eye is 1/5 inch.
_____ How much greater? _____ SHOW YOUR WORK.

- iii. What is the magnifying power of a 8-inch Celestron telescope when used with a 20-mm eyepiece? SHOW YOUR WORK.

- iv. What is the smallest telescope that can be used to resolve the double star δ Cyg, where the two stars are 2.6" (arcseconds) apart? SHOW YOUR WORK.