

UNIVERSITY OF CALIFORNIA
College of Engineering
Department of Electrical Engineering
and Computer Sciences
EEEC119, Spring 2008

Spring 2008

Problem Set No. 2

Problem Number one) Snell's Law and the Lens Formula
Hecht Problem 5.5

Problem Number two) Cartesian oval
Hecht Problem 5.1

Problem Number three) Imaging with a Thin Lens
Hecht Problem 5.12

Problem Number four) Camera Imaging (film is a C.C.D. array)
Hecht Problem 5.14

Problem Number five) A lens embedded in an index material
Hecht Problem 5.28

Problem Number six) Measurement of the focal distance of a lens
Problem 5.32

Problem Number seven) Effective focal length of lens combination
Problem 5.65

Problem Number eight)

A laser pointer has a measured minimum beam radius of .5 mm near the exit of the beam. If it is to be focussed to a radius of .01 mm what focal length lens should be used and how far from the lens is the beam focussed.