

Geometrical Optics

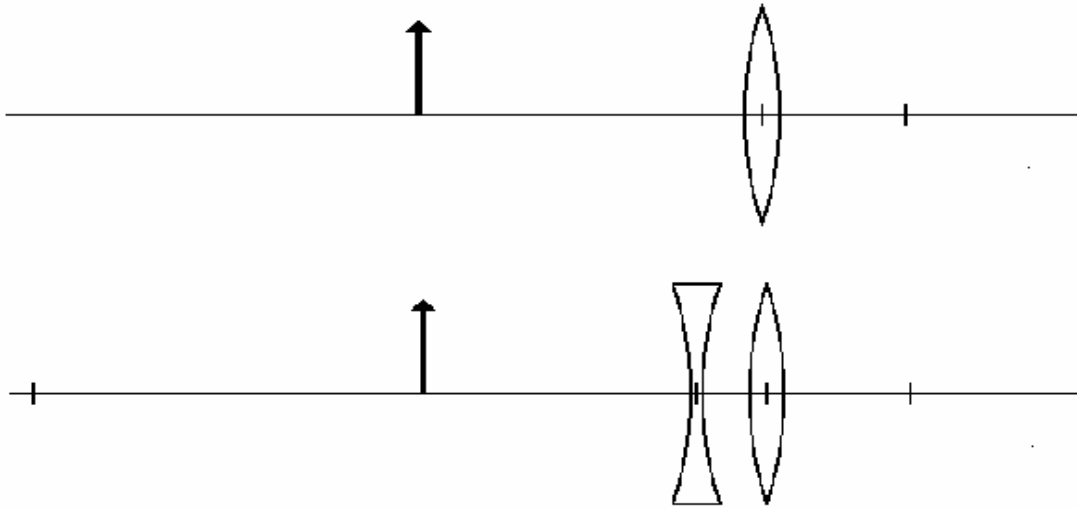
Name _____ ID _____ TA _____

Partners _____

Date _____ Section _____

Please do not scratch the surface of the mirror.

1. Application of geometrical optics:



2. Properties of lenses and mirrors:

The table below (with one sample entry) allows you to summarize the images formed by various optical components. Fill in the table, using the definition introduced in the lab manual and the following abbreviations:

u = object distance

v = image distance

f = focal length

R = real

E = erect

M = magnified

V = virtual

I = inverted

S = reduced (smaller)

Device	$u < f$	$f < u < 2f$	$u > 2f$
Concave Mirror			
Convex Mirror			
Concave Lens			
Convex Lens			R, I, S

Lab Procedure for Geometrical Optics

If you do not understand how to use the software, please ask the TA.

1. Application of geometrical optics

- **The TA will show you how to draw the light-ray lines. Then you will apply it to the pictures on the data sheet.**

The purpose of this lab is you to know an application of lenses. This is how a lens for nearsightedness works.

- **For people who like a challenge, you can think about the case for farsightedness.**

For this, you have to use a convex lens.

2. Properties of lenses and mirrors

- **Start up ‘Optical Tutorial’ on the Desktop.**

- **First, select “1. Rules for Ray Diagrams.”**

You will learn more detailed properties of lenses and mirrors.

- **Second, select “2. Lens and Mirror Experiment.”**

This program will give you the answers for the table on the data sheet.

3. Just think about this...

Specify what you understood and what you did not understand from this lab. Hopefully, this will give you deeper understanding for the next lab.