

Name: \_\_\_\_\_

Lab Date: \_\_\_\_\_

Partner: \_\_\_\_\_

You will not write on this sheet with a pen.

When units are already given on this sheet, you will convert your answers to correctly use those units.

When units are not already given on this sheet, you will add units as needed (in the parenthesis).

You will carefully consider your answer to the last (text) question before you even begin to write, so that your answer will not exceed the space given.

These instructions apply to all worksheets this semester, but will not be repeated.

### Worksheet 3: Lenses

<b>Part II: Distant Object (Exit Sign)</b>	
<i>Quantity</i>	<i>Value</i>
$f$ (mm)	$\pm$
<b>Part III: Varying Positions</b>	
Object height (direct measurement) $h_o$ (cm)	$\pm$
Plot 1: slope of $(d_o \cdot d_i)$ vs $(d_o + d_i)$	$\pm$ ( )
Plot 1: intercept of $(d_o \cdot d_i)$ vs $(d_o + d_i)$	$\pm$ ( )
Plot 1: $f$ (mm)	$\pm$
Plot 2: slope of $(h_i)$ vs $(-d_i/d_o)$	$\pm$
Plot 2: Object height $h_o$ (cm)	$\pm$

You now have two measurements of  $f$  and two measurements of  $h_o$ , none of which are perfect. Based on these, what do *you* think  $f$  and  $h_o$ , really are? Justify your answer, be quantitative, and include uncertainties.