

Lens Test Worksheet

Lens	Object Distance (o)	Image Distance (i)	Calculate Focal Length $\frac{1}{f} = \frac{1}{o} + \frac{1}{i}$	Direct Focal Length Measurement
#1	_____ cm	_____ cm	$f =$ _____ cm	$f =$ _____ cm
#2	_____ cm	_____ cm	$f =$ _____ cm	$f =$ _____ cm

Questions

1. Draw a ray diagram for the lens with the shorter focal length. Draw it *actual* size using a ruler to accurately measure the focal length. Label the rays and the focal point.

2. How does the calculated focal length from the optics bench measurements compare with the focal length determined by the direct measurement? Explain any differences.

3. Why is the distance *i* not equal to the focal length in the calculated measurement?