Lab 10: Thin Lenses

Definitions: Mirror: optical system which reflects an image.
Lens: optical system w/2 refracting surfaces.

Case 1:
- Focal length: $f = \frac{1}{P} + \frac{1}{Q}$
- Size of image: smaller

Case 2:
- Focal length: $f = \frac{1}{P} + \frac{1}{Q}$
- Size of image: equal

Case 3:
- Focal length: $f = \frac{1}{P} + \frac{1}{Q}$
- Size of image: larger

Case 4:
- Focal length: $f = \frac{1}{P} + \frac{1}{Q}$
- No image

Experiment Part 1

Measure and Record
1) Image distance $> \text{mm}$
2) Object distance

Part 2

To solve: $P_2 = \frac{P_1 \times d}{P_1 - d}$
1) $P_1 = \frac{P_2}{P_1}$
2) $P_2 = \frac{P_1}{P_1}$
3) $P_1 = \frac{P_2}{P_1}$

$\frac{\text{Meas. - Calc.}}{\text{Calc.}} \times 100$