

T.C.

GEBZE TECHNICAL UNIVERSITY

PHYSICS DEPARTMENT

OPTICS LABORATORY

EXPERIMENT REPORT

FOCAL LENGTH DETERMINATION of LENSES

DATA and RESULTS

Name: _____

TA: _____

Department: _____

Partners: _____

1. Calculate the focal lengths for three different object position for both lenses by using lens equation, record your value in Tables below.

2. Calculate the magnification for three different object position for both lenses, record your value in Tables below.

	$D_{object}(\text{cm})$	$D_{image}(\text{cm})$	$H_{object}(\text{cm})$	$H_{image}(\text{cm})$	Focal Length _{exp} (cm)	Magnification _{exp} (cm)
1						
2						
3						

Table 2: for ... focal length lens

	$D_{object}(\text{cm})$	$D_{image}(\text{cm})$	$H_{object}(\text{cm})$	$H_{image}(\text{cm})$	Focal Length _{exp} (cm)	Magnification _{exp} (cm)
1						
2						
3						

Table 3: for ... focal length lens

3. Define magnification ratio. What is the expression for ratio between object and image sizes?

4. How do you calculate radius of curvature of convergent and divergent lenses with given focal lengths?

DISCUSSION & CONCLUSION

1. What are the possible errors in the experiment?
2. What kind of approximations did you take into consideration while you were obtaining the physical quantities and how do they affect your results?
3. What discrepancies did you encounter between the calculated quantities and theoretical or literature values?
4. What is your overall conclusion?