

T.C.

GEBZE TECHNICAL UNIVERSITY

PHYSICS DEPARTMENT

OPTICS LABORATORY

EXPERIMENT REPORT
INTERFERENCE OF LIGHT
with FRESNEL'S MIRRORS

DATA and RESULTS

Name: _____

TA: _____

Department: _____

Partners: _____

p, the distance between two bright fringe(cm)	
the distance, B, between the image of virtual light sources(cm)	
b, distance between lens +30 and screen(m)	

Table 1: Values

1. By using thin lens equation, calculate g; distance between virtual source and lens +30

$$\frac{1}{f} = \frac{1}{g} + \frac{1}{b} =$$

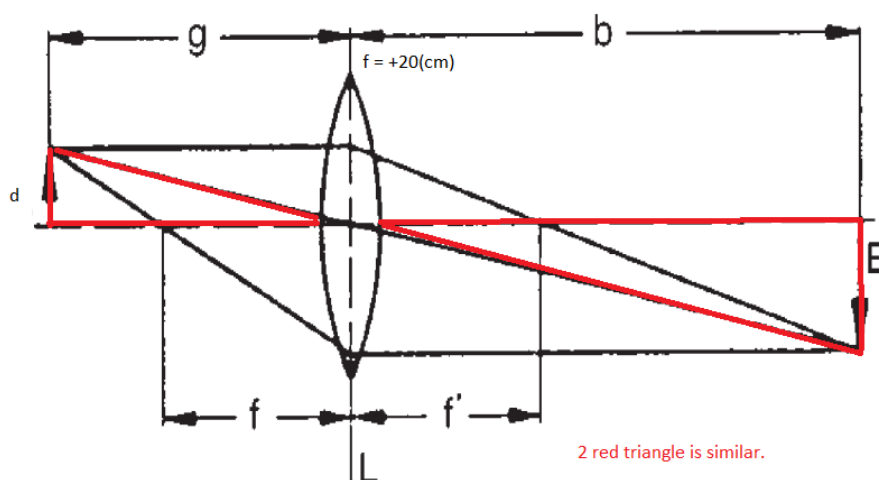


Figure 4: The distance d between the two virtual light sources is determined by projecting a sharp image of them on the screen, using a lens of focal length f and measuring the size of the image B

2. Simply by using triangle similarity, find d , distance between virtual sources;

$$\frac{d}{g} = \frac{B}{b} \Rightarrow d =$$

3. Calculate L , distance between virtual source and screen. By using eq 2, find the λ , wavelength of our laser light experimentally

$$L =$$

$$\lambda = \frac{pd}{mL} =$$

4. Compare your result to the wavelength of our laser source.

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?