Today	**Ch 26** Geometric Optics: Rarefaction 2nd ½	**HW22Redo, HW24**
Friday	**Ch 27** Wave Optics	
Lab	**7:** Geometric Optics	

26.5 The Dispersion of Light: Prisms and Rainbows

Ex. 1 A beam of sunlight encounters a plate of crown glass at a 45.00° angle of incidence. Using the data in Table 26.2, find the angle between the violet ray and the red ray in the glass.

26.6Lenses

- **Putting two Prisms together**
  - **Converging**
  - **Diverging**

26.7The Formation of Images by Lenses

- **Ray Tracing**
  - **Outside Focal length, Converging**

Example 2. An object is located 9.0 cm in front of a converging lens (f = 6.0 cm). Using an accurately drawn ray diagram, determine where the image is located.

- **Inside Focal length, Converging**
- **Divering**

26.8The Thin-Lens Equation and the Magnification Equation

Example 3. When a diverging lens is held 13 cm above a line of print as in the figure, the image is 5.0 cm beneath the lens. What is the focal length of the lens?

- **Lenses in Combination**

Example 4 A converging lens has a focal length of 0.080 m. An object is located 0.040 m to the left of this lens. A second converging lens has the same focal length as the first one and is located 0.120 m to the right of it. Relative to the second lsne, where is the final image located?

- **The Eye**
  - **Far and Near sighted**

HW 25 Ch 26 Pr 38, 44, 60

38. A ray of sunlight is passing from diamond into crown glass; the angle of incidence is 35.00°. The indices of refraction for the blue and red components of the ray are: Blue ($n_{diamond} = 2.444$, $n_{crown\ glass} = 1.531$), and red ($n_{diamond} = 2.410$, $n_{crown\ glass} = 1.520$). Determine the angle between the refracted blue and red rays in the crown glass.

44. A diverging lens has a focal length of -32 cm. An object is placed 19 cm in front of this lens. Calculate (a) the image distance and (b) the magnification. Is the image (c) real or virtual, (d) upright or inverted, and (e) enlarged or reduced in size? (*a picture might help)*

60. Two identical diverging lenses are separated by 16 cm. The focal length of each lens is -8.0 cm. An object is located 4.0 cm to the left of the lens that is on the left. Determine the final image distance relative to the lens on the right.

68. A person holds a book 25 cm in front of the effective lens of her eye; the print in the book s 2.0 mm high. If the effective lens of the eye is located 1.7 cm from the retinal, what is the size (including the sign) of the print image on the retina?