

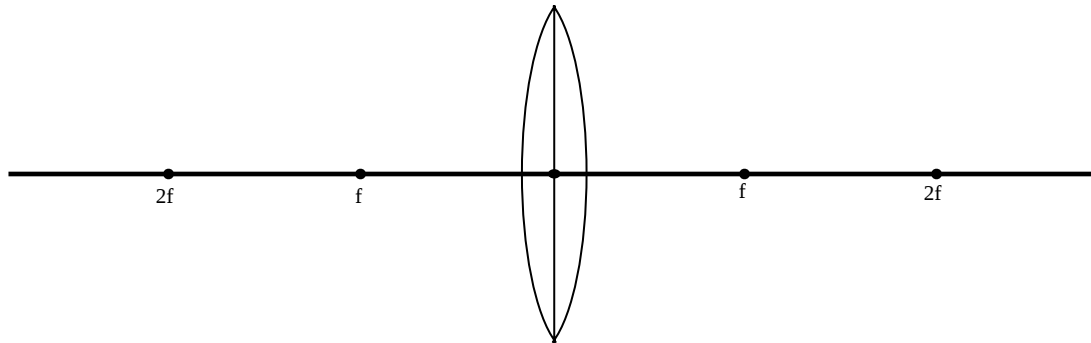
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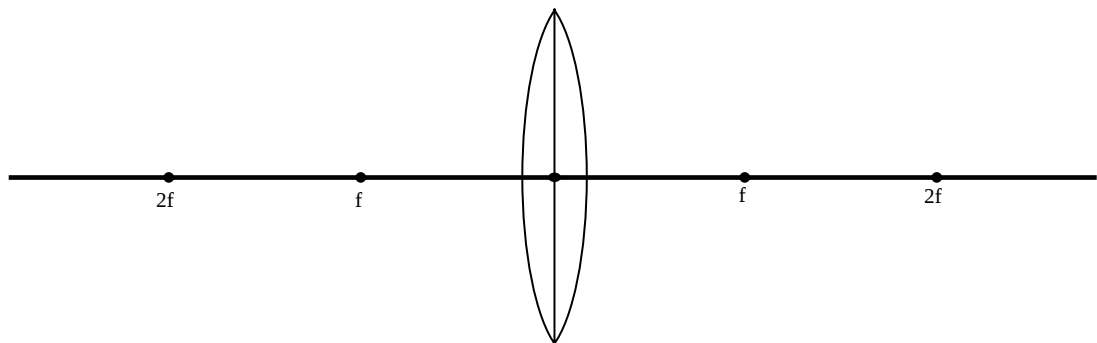
Section C D F

Refraction IV: Lens Calculations

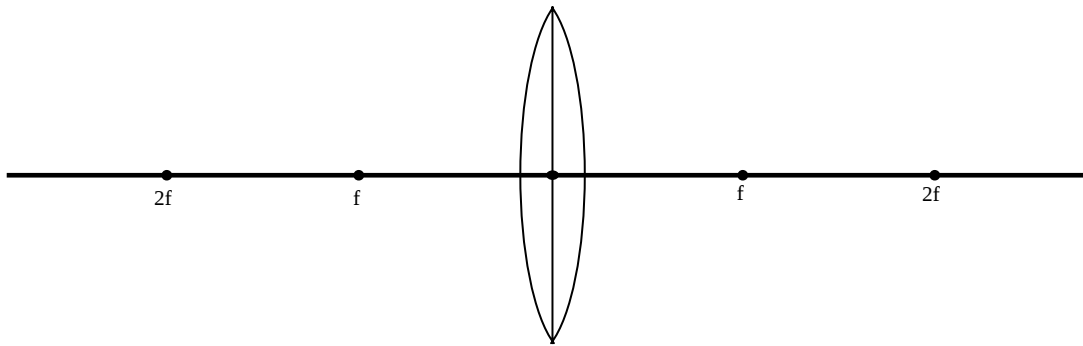
1. Determine image distance, image height, and magnification for a 5-cm tall object placed 45.0 cm from a converging lens having a focal length of 15.0 cm. Please draw a diagram.



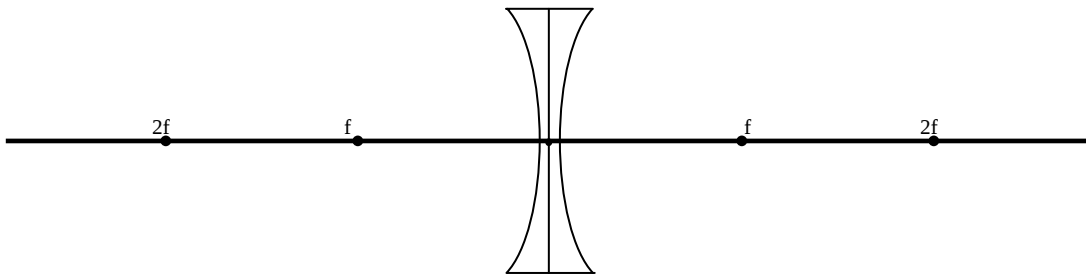
2. Determine p , h' , and M for a 5-cm tall object placed 10.0 cm from a converging lens having a focal length of 15.0 cm. Draw a diagram.



3. A magnified, inverted image is located a distance of 32.0 cm from a converging lens with a focal length of 12.0 cm. Determine the object distance and tell whether the image is real or virtual. After calculations, please fill in the diagram.



4. If a diverging lens has a focal length of -10.8 cm, find the image distance when an object is placed 32.7 cm from the lens's surface. Draw a diagram.



5. A person looks at a gem with a jeweler's microscope - a converging lens with a focal length of 12.7 cm. The microscope forms a virtual image 31.6 cm from the lens. Determine the object distance, and magnification of the image. After calculations, please fill in the diagram.

