Lens Equation Worksheet

1. Determine the image distance and image height for a 5.5-cm tall object placed 54.0-cm from a converging lens having a focal length of 20.0 cm.

2. Determine the image distance and image height for a 5.0-cm tall object placed 48.0-cm from a converging lens having a focal length of 24.0 cm.

3. Determine the image distance and image height for a 4.8-cm tall object placed 26.0-cm from a converging lens having a focal length of 16.0 cm.

4. Determine the image distance and image height for a 6.8-cm tall object placed 10.0-cm from a converging having a focal length of 14.0 cm.

5. A magnified, inverted image is located a distance of 38.0 cm from a converging lens with a focal length of 10.0 cm. Determine the object distance and tell whether the image is real or virtual.

6. An inverted image is magnified by 2 when the object is placed 26 cm in front of a converging lens. Determine the image distance and the focal length of the lens.

7. A diverging lens has a focal length of -14.8 cm. An object is placed 38 cm from the lens's surface. Determine the image distance.

8. Determine the focal length of a diverging lens that produces an image that is 16 cm from the lens (and on the object's side) when the object is 34 cm from the lens.

9. A 2.65-cm diameter coin is placed a distance of 32 cm from a diverging lens that has a focal length of -14 cm. Determine the image distance and the diameter of the image.

10. The focal point is located 22 cm from a diverging lens. An object is placed 10 cm from the lens. Determine the image distance.