

HOMEWORK ASSIGNMENT FOR THURSDAY, JULY 21

1. An object is placed 10 cm from the vertex of a concave mirror of radius of curvature 12 cm. Find the image distance and the magnification, and characterize the image in the usual way. Check your results by ray tracing using three different rays.

2. Repeat this for an object placed 12 cm from the vertex of a convex mirror of the same radius of curvature.

3. An object is placed 5.00 cm from a concave mirror of focal length 10.0 cm. Find the radius of curvature of the mirror and the image distance and the magnification, and characterize the image in the usual way. Check your results by ray tracing using three different rays.

4. When an object 1.00 mm high is placed 30 cm from a spherical mirror, an erect image 3.00 mm high is produced. What are the image distance and the focal length and the radius of curvature of the mirror? What kind of mirror is it (concave or convex)?