

1. Two parallel planar mirrors face each other. An object is placed between them at a distance x from one and $3x$ from the other. If the images created of the object are "first-order" images, and those created of the first-order images are "second-order" images, how far away are the second-order images from the object, in terms of x ?
2. A convex mirror has a radius of curvature of 36.0 cm. When a 5.60 cm tall object is placed in front of the mirror, the magnification is 0.250. (a) What is the height of the image? (b) How far is the object from the mirror?
3. An object is placed at position (2.00, 2.00) on a coordinate system. A concave mirror is placed at (-7.00, 2.00), facing the object. The mirror has a focal length of 2.25. At what position is the image produced? Assume that all lengths are in meters.