1. You found a tiny (2.50 mm long) insect in your kitchen, and you want to get a better look at it in order to identify its species. Luckily, you happen to have on hand a collection of magnifying glasses of various focal lengths. You plan to place the insect at the focal point of one of your magnifying lenses, and you want its image to have an angular size of 0.0500 rad. What focal length should you choose for your lens?

2. Let's look at what happens when we combine two lenses. A figurine 1.50 cm tall is located 60.0 cm to the left of a converging lens L_1. A second converging lens, L_2, is located 300.0 cm to the right of L_1. The focal length of L_1 is 50.0 cm, and the focal length of L_2 is 70.0 cm. What is the location and height of I_1, the object formed by L_1? The final image is the object formed by L_2 with I_1 as the object. What is the location and height of the final image?