You look at letters on this page with your eye, holding the page about 25 cm in front of your eye lens as in the figure below. This is far enough away for most people that they can adjust their eye lens to form a sharp, in-focus, image on their retina of the letters.

a) A single letter on this page has a height of 0.3 cm. How tall is the image of this letter on your retina?

b) Is the image on your retina upright or inverted with respect to the letters on the page?

Now you use a magnifying glass to enlarge the letters on this page as shown below. The focal length of the magnifying glass is 5 cm, and you hold it 4.2 cm from the page. You position your eye lens 2 cm behind the magnifying lens.

c) Is the image produced by the magnifying lens alone real or virtual? Explain
b) How many times bigger than the letter on the page is the image produced by the magnifying lens alone (i.e. what is the magnification of the magnifying lens alone?)

c) Your eye lens uses the image produced by the magnifying lens as an object to form a sharp image on your retina, 1.7 cm behind your eye lens. Is this image on your retina inverted or upright relative to letters on the page? **Explain.**

d) A letter on this page is 0.3 cm tall. With paper, magnifying lens, and eye arranged as in the figure, how tall is the image of that letter on the retina?

f) How much bigger are the letters with the magnifying glass than without?