Lenses II

A.C. Norman
anorman@bishopheber.cheshire.sch.uk

1. Where, relative to the lens and the focal point, is the object placed, if the image is to be
   (a) smaller and inverted,
   (b) larger and inverted,
   (c) upright?
2. Where, relative to the lens and the focal point, is the object placed if the lens is to be used in
   (a) a magnifying glass,
   (b) a camera,
   (c) a projector?
3. (a) Which is the eye lens in the eye most like: a projector lens, a camera or a magnifying glass?
   (b) Give two reasons for your choice.
4. An object of height 3 cm is placed 5 cm from a converging lens of focal length 3 cm.
   (a) Draw a (full size) ray diagram of this onto graph paper
   (b) i. What is the height of the image?
   ii. What is the distance the image is from the lens?
   iii. Is the image upright or inverted?
   iv. Is the image real or virtual?
   v. In what optical device might this lens be used?

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