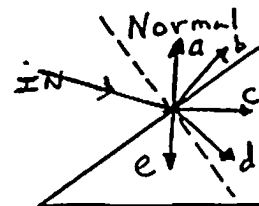


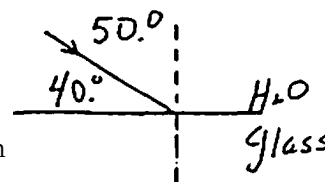
1. When monochromatic light strikes a prism as shown, rays which indicate possible future paths are: (Circle)

a b c d e



_____ 2. Light at the proper angle could undergo total internal reflection in passing from (a) air to water, (b) glass to diamond, (c) ethanol to water, (d) water to glass, (e) none of the above

_____ 3. Light is incident from water into glass as shown. Then angle of incidence is (a) 50° (b) 40°



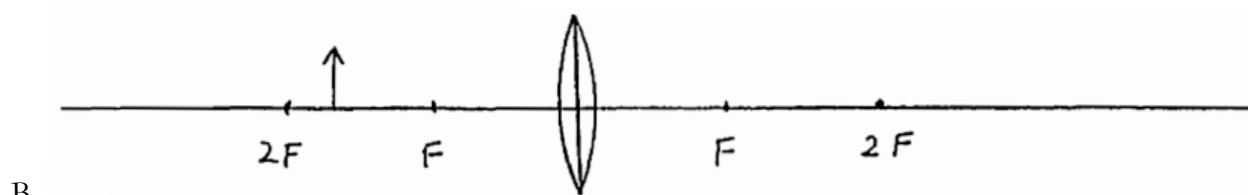
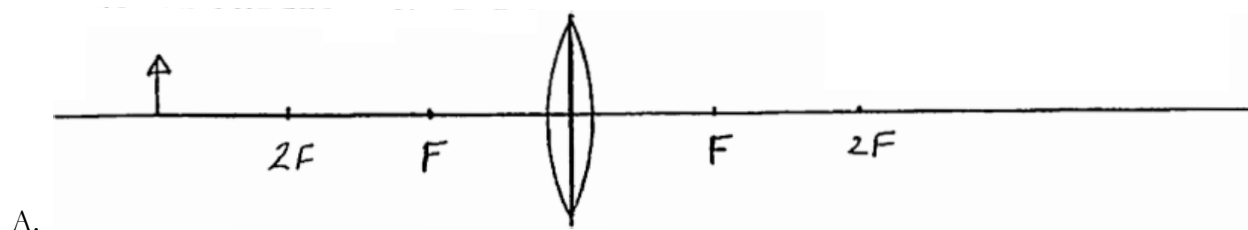
_____ 4. In 3 above, the light reflected from the interface would leave at an angle of (a) 50° (b) 40° from the normal

_____ 5. In 3 above, the sine of the angle of incidence is (Fill in the blank)

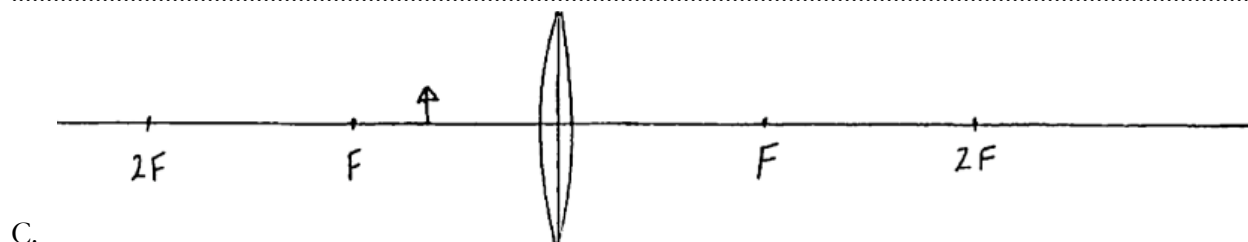
_____ 6. In 3 above, the sine of the angle of refraction is (Fill in the blank)

_____ 7. In 3 above, the angle of refraction is (Fill in the blank)

8. Draw ray diagrams to locate the images in each case.

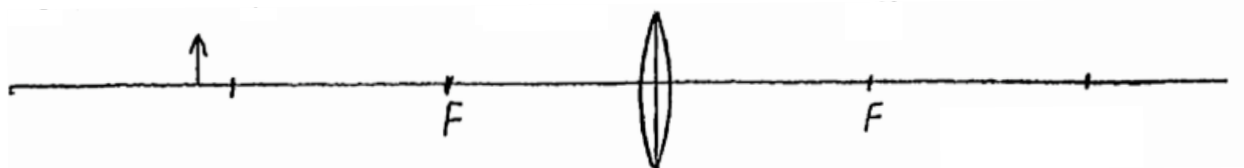


Look at the results if A and B. What do you notice about the relative locations of objects and image? Sizes?.....
.....
.....
.....



For problems 9 and 10, draw the ray diagrams and show work on this sheet to answer the questions.

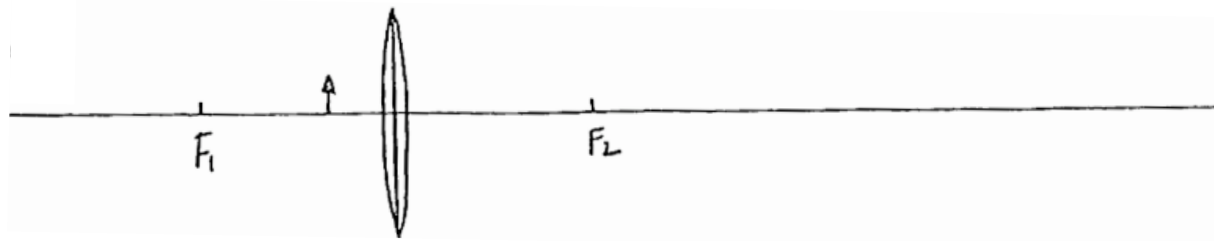
9. Assume the $f = 100.$ cm, and the object is 215 cm from the lens.



a. How far from the lens is the image?

b. If the object is 7.00 mm tall, how tall is the image

10. Assume $f = 100.$ cm, and that the object is 20.0 cm from the lens.



a. How far from the lens is the image?

b. How large is the image compared to the object?