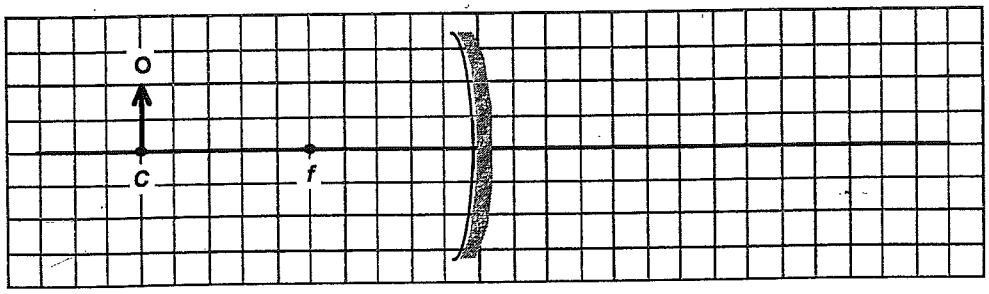
Name: _____

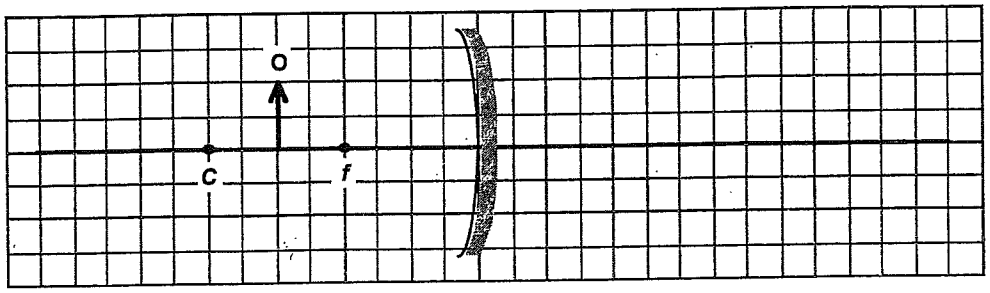
Mirror and Lens In-Class Assignment

1. Complete the following ray diagrams and state the characteristics of the images (real/virtual, upright/inverted, larger/smaller/same size).

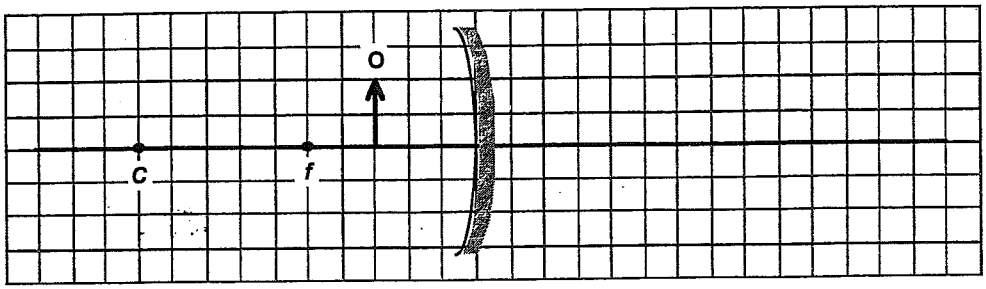
a)



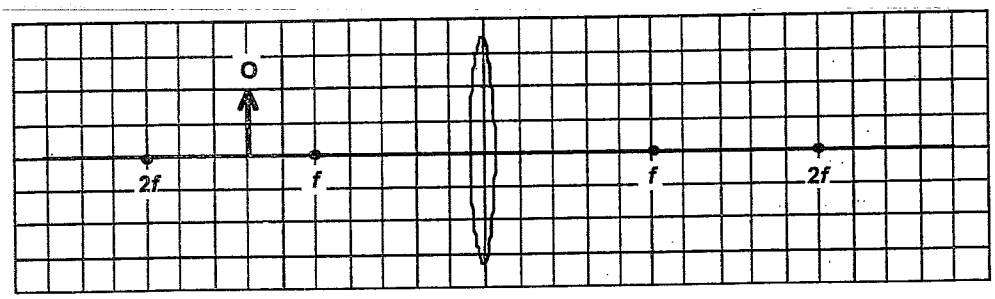
b)



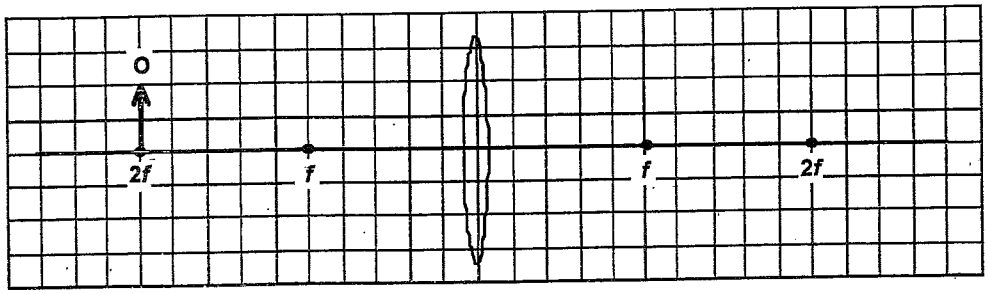
c)



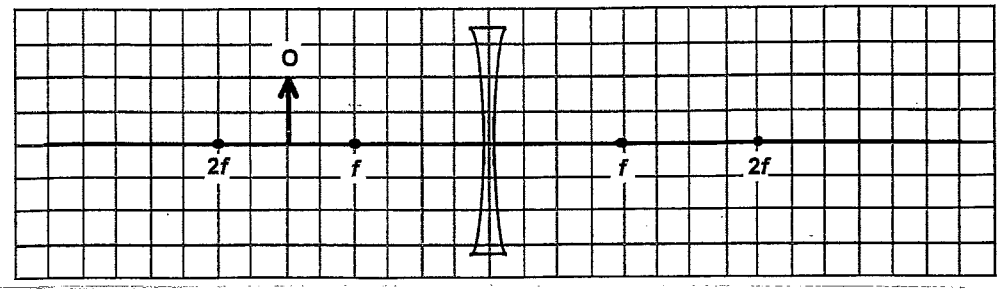
d)



e)



f)



2. An object 5.0 cm tall is placed 7.0 cm in front of a concave mirror. If a real image is produced that is also 5.0 cm tall, what is the focal length of the mirror?

3. An object 3.0 cm tall is placed 6.0 cm in front of a mirror. If a virtual image is produced that is 1.0 cm tall, what is the focal length of the mirror? What kind of mirror is used? (Explain how you know)

4. A convex mirror produced an image that is 3.0 cm behind the mirror. If the focal length of this mirror is 5.0 cm, at what distance from the mirror is the object placed?

5. A glowing object 6.0 cm tall is placed 9.0 cm from a convex lens. If the lens has a focal length of 8.0 cm, what is (are):

a) the distance of the image from the lens?

b) the size of the image?

c) the characteristics of the image?

6. A glowing object is 5.0 cm tall is placed 4.5 cm from a concave lens. If the lens has a focal length of 4.5 cm, what is (are):

a) the distance of the image from the lens?

b) the size of the image?

c) the characteristics of the image?