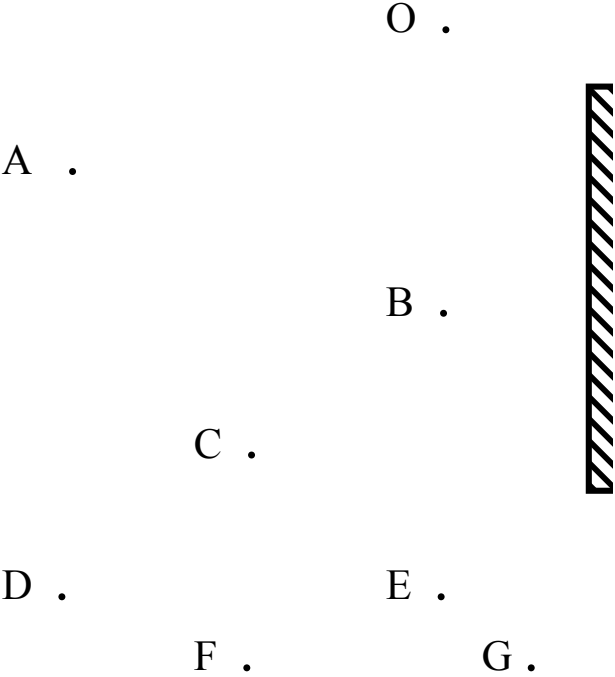
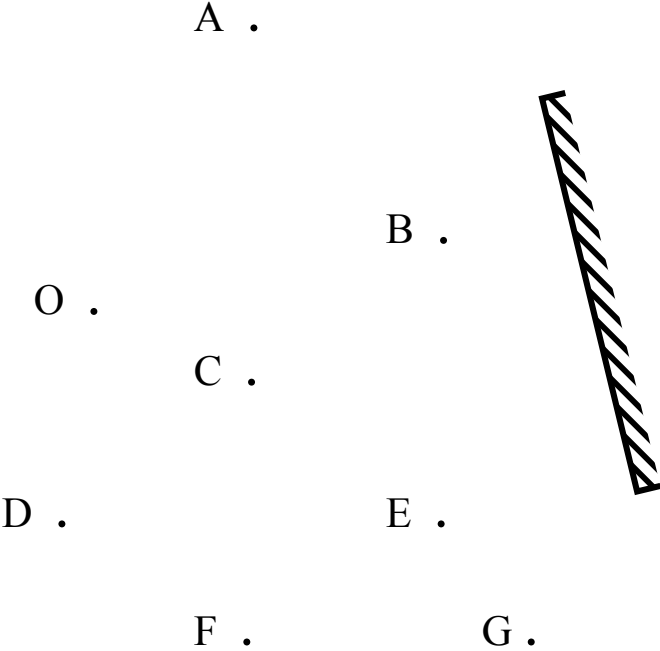


PLANE MIRRORS

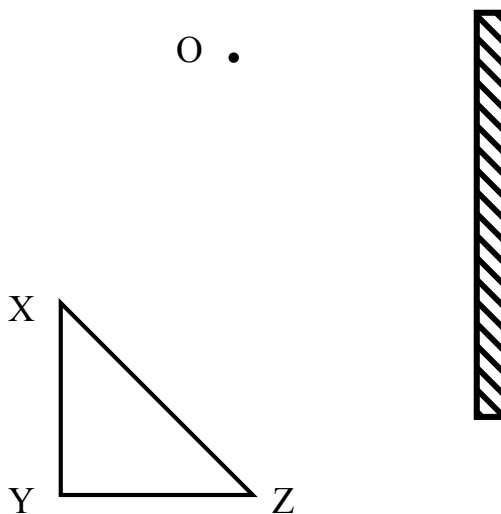
1. Which of the points shown can be seen reflected in the mirror by an observer at point O?



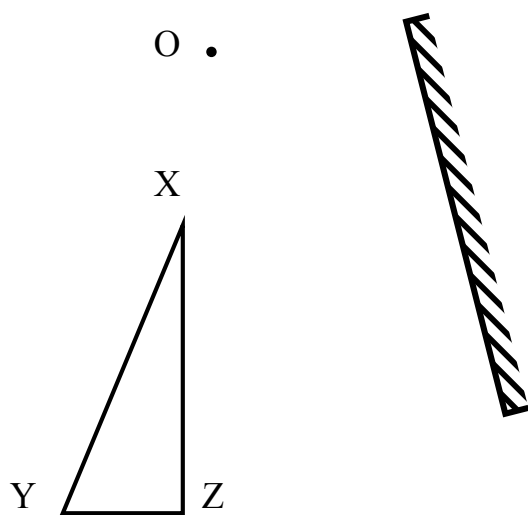
2. Which of the points shown can be seen reflected in the mirror by an observer at point O?



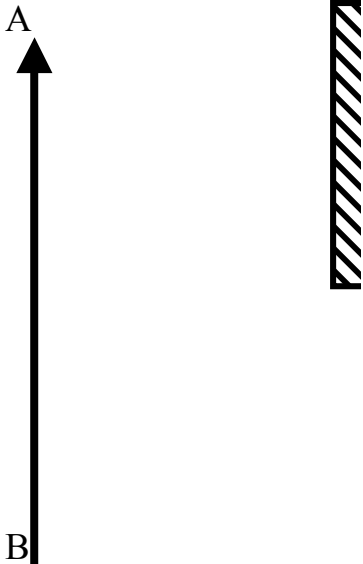
3. Locate and draw the image of triangle XYZ. Then indicate the smallest mirror that will allow all of the reflection of the object to be seen by an observer at point O.



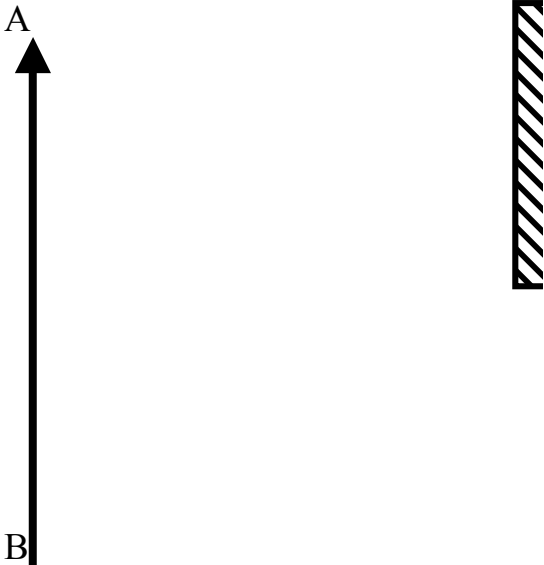
4. Locate and draw the image of triangle XYZ. Then indicate the smallest mirror that will allow all of the reflection of the object to be seen by an observer at point O.



5. The drawing below shows woman AB with eyes at A and feet at B standing in front of a mirror. Show whether the woman can see all of her reflection in the mirror.



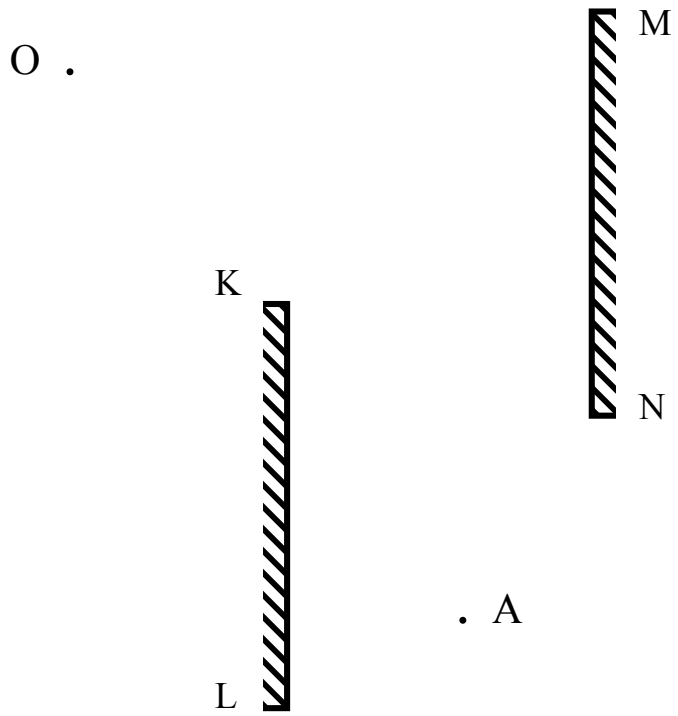
6. If the woman steps back farther from the mirror will she see more of herself? Do a similar analysis as you did in problem #5



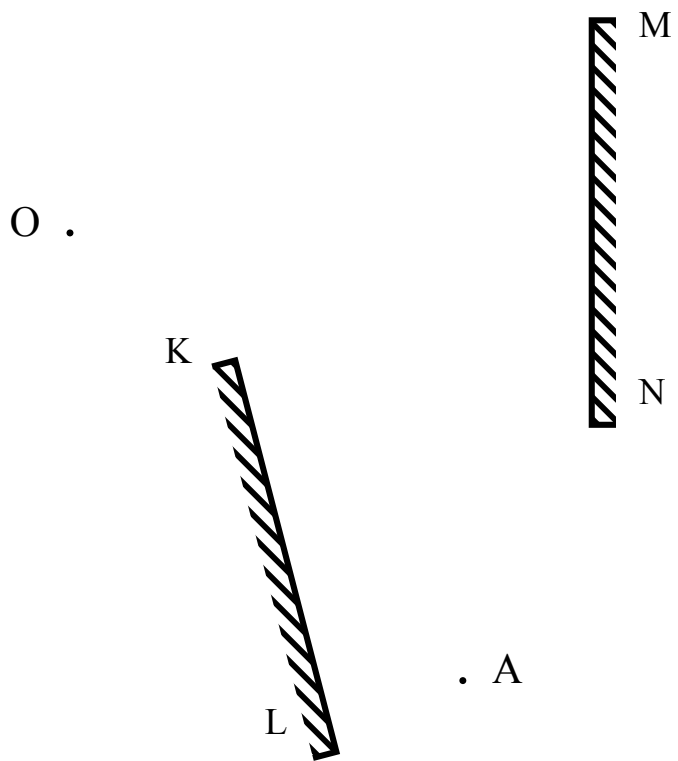
7. The drawings below show man AB with eyes at A and feet at B standing in front of a mirror. Show whether the man can see all of his reflection in mirror. OK it's the Geico gecko.



9. There are two mirrors KL and MN facing each other. Can the observer see the object at point A by looking in a mirror? If yes, trace the path of light from object "A" to the observer.

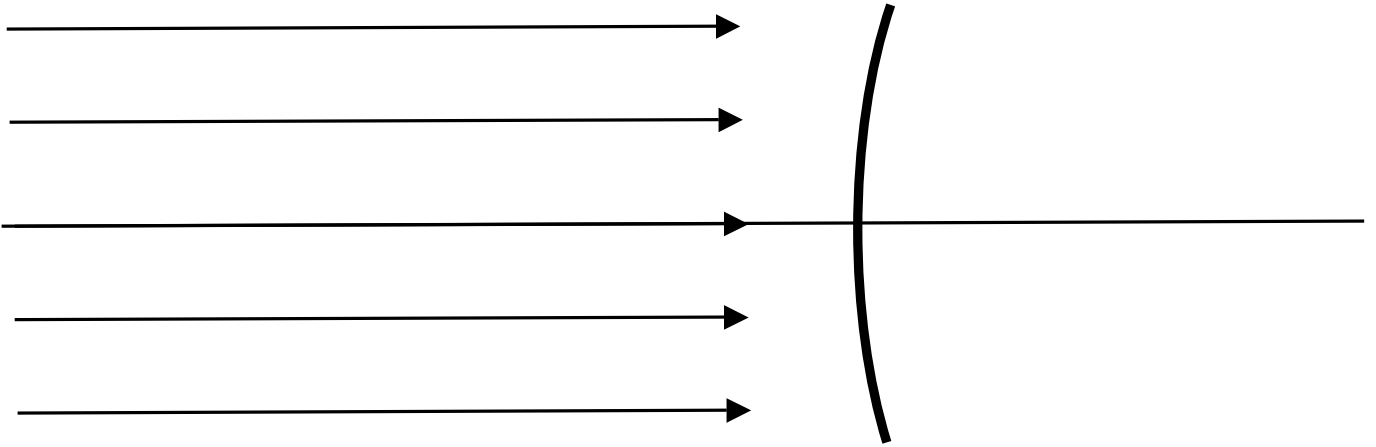


10. There are two mirrors KL and MN facing each other. Can the observer see the double reflection of object at point A? If yes, trace the path of light from object "A" to the observer.



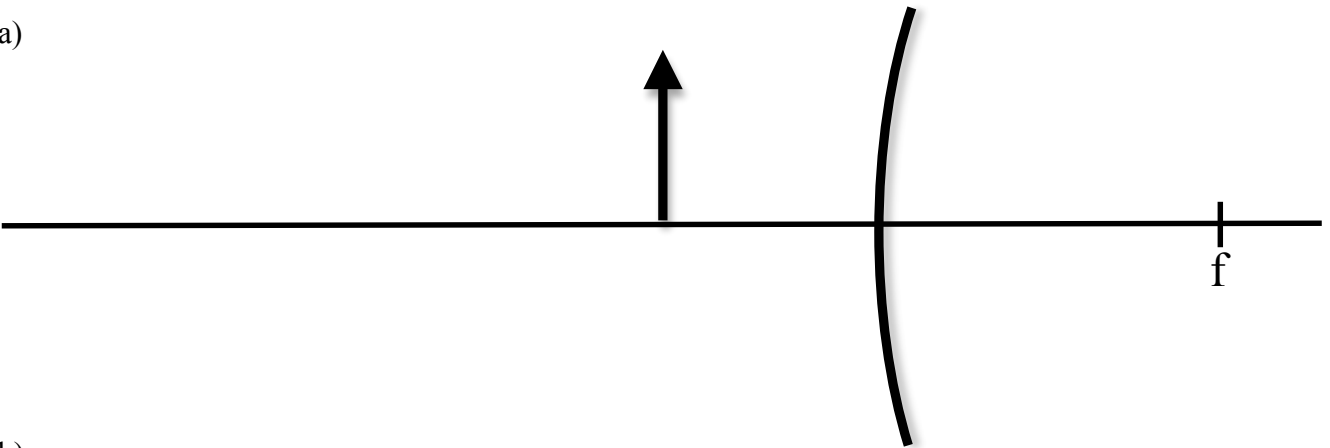
Curved Mirrors

1. For the **convex mirror** shown below, show how each of the rays is reflected off the convex mirror.

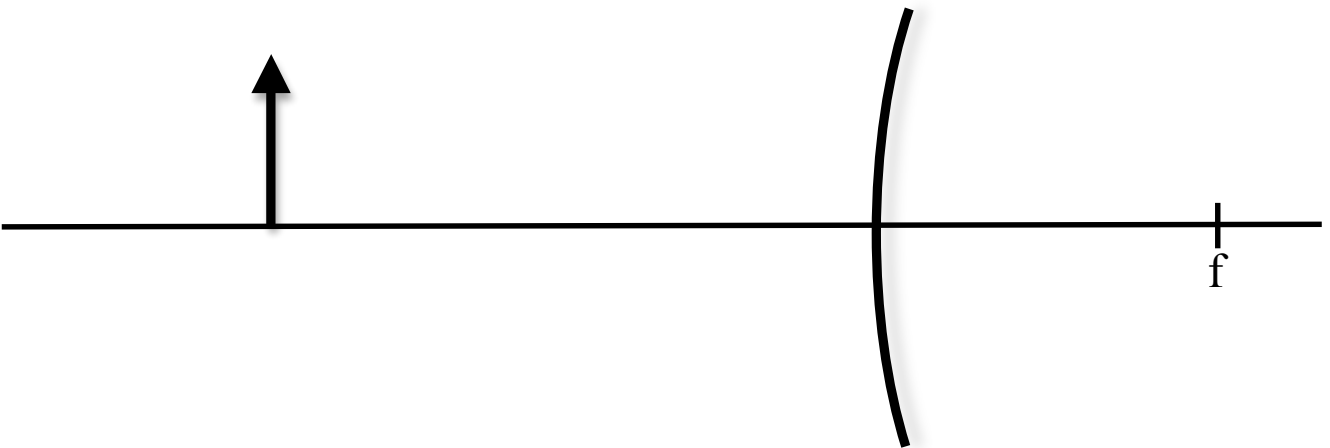


2. Draw the images in the following convex mirrors.

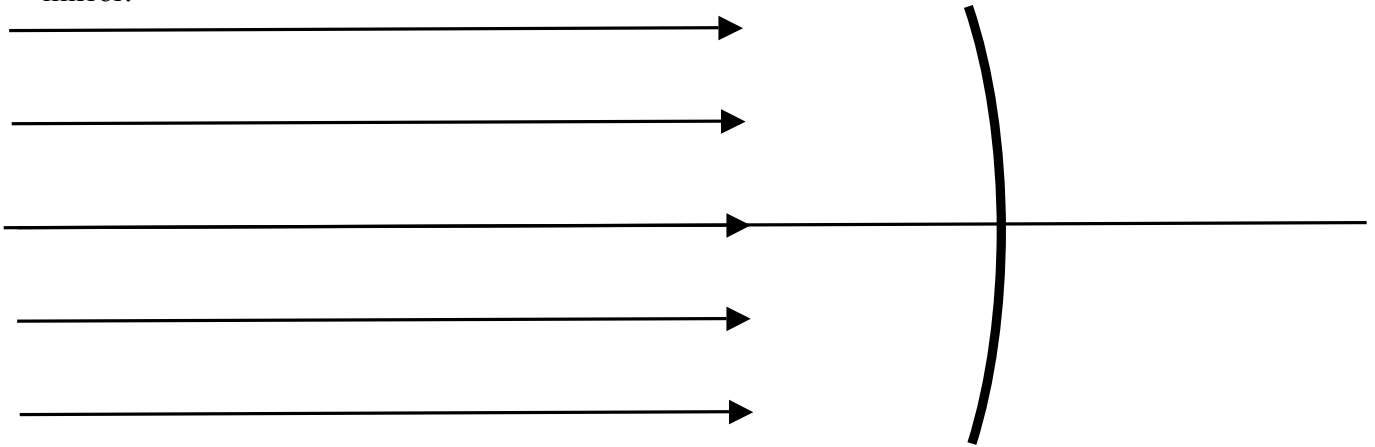
a)



b)

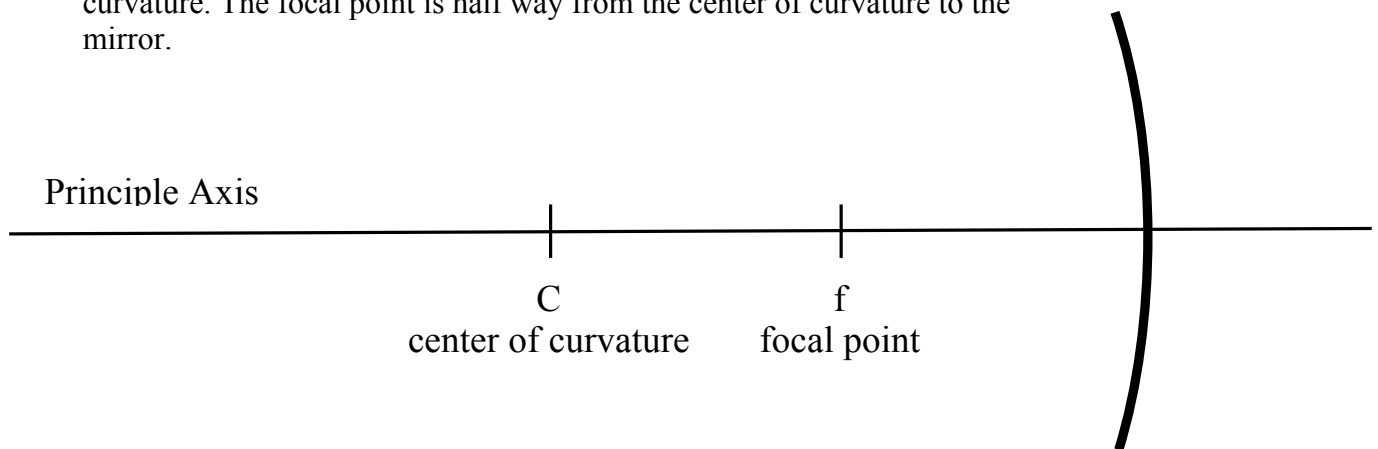


3. For the **concave mirror** shown below, show how each of the rays is reflected off the concave mirror.

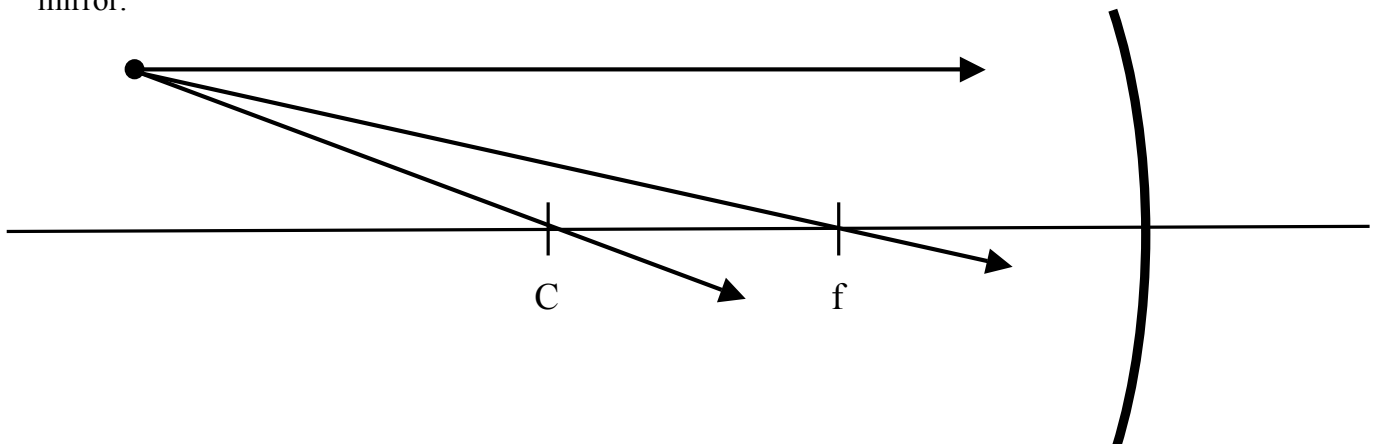


4. **Parts of the mirror.**

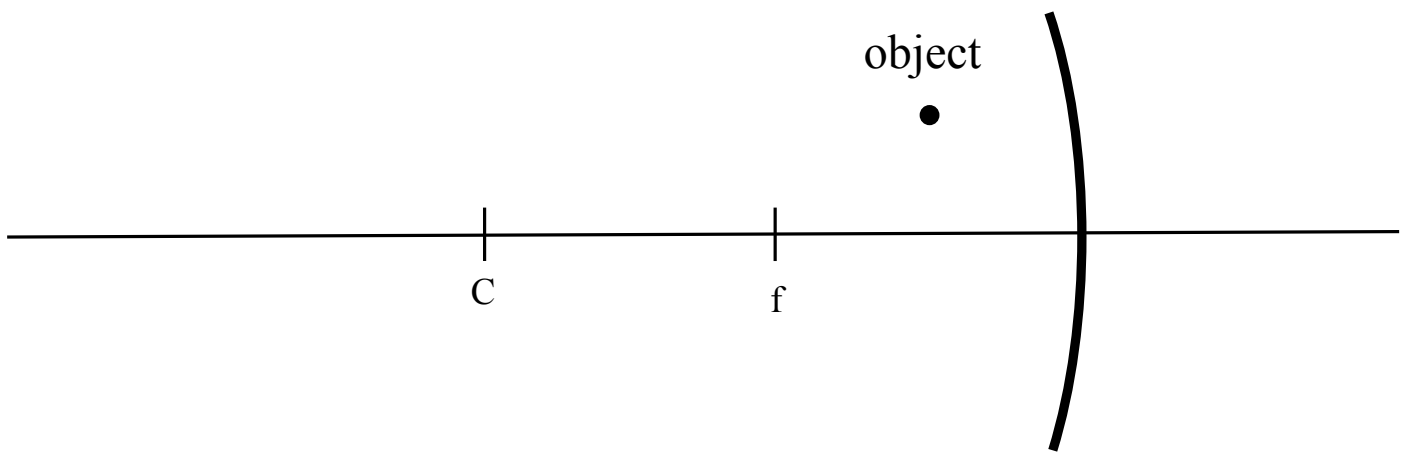
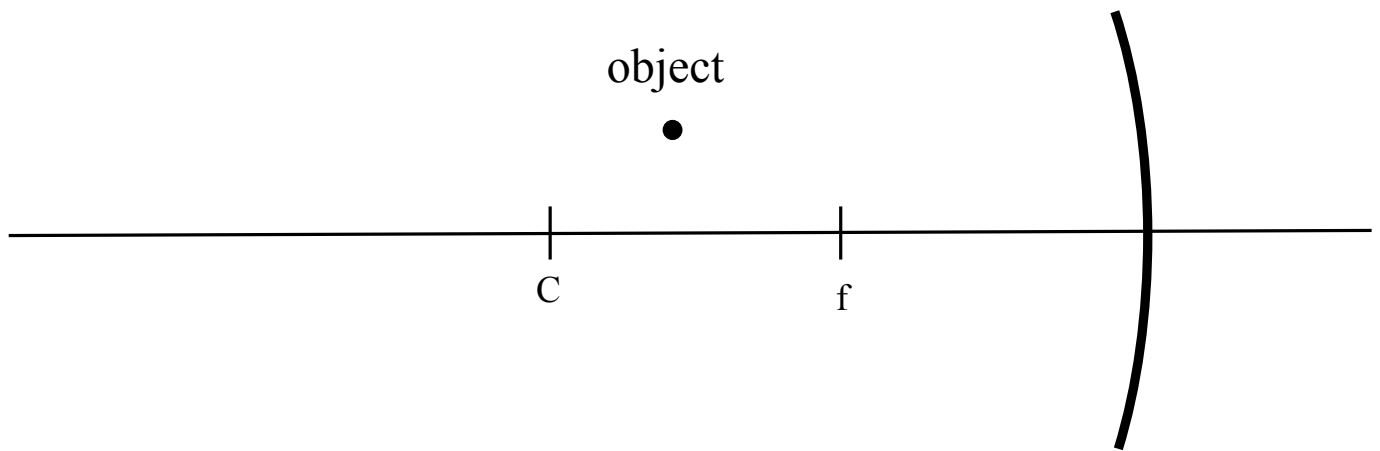
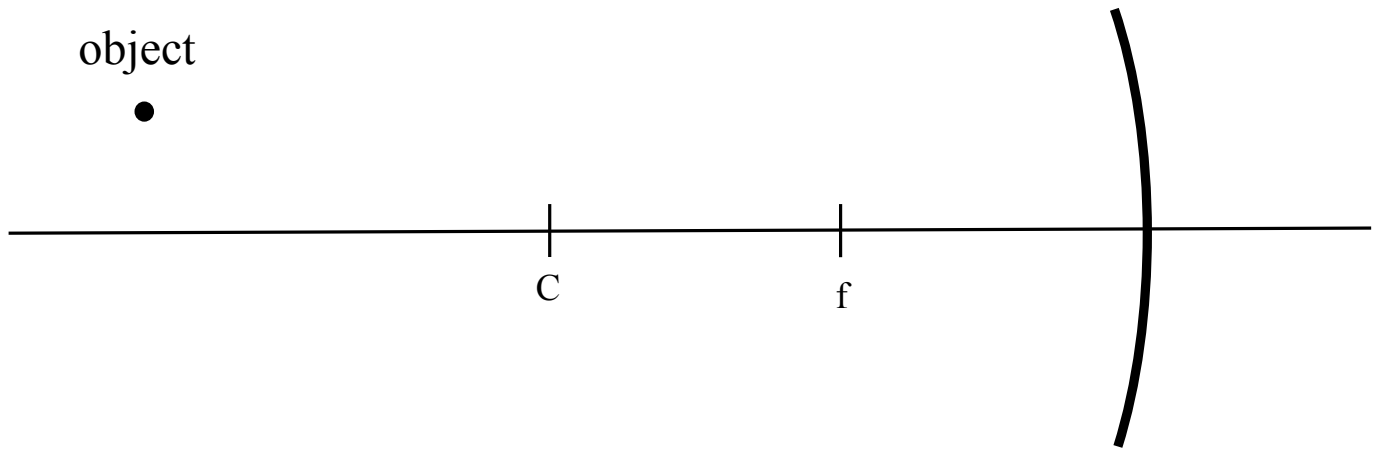
- The line that intersects the mirror at the very center and is perpendicular to a tangent to the arc of the mirror at that point is called the principle axis.
- The point on the principle axis where all the rays that approach the mirror parallel to the principle axis reflect and then cross is called the focal point.
- The center of the circle that is drawn to make the shape of the mirror is called the center of curvature. The focal point is half way from the center of curvature to the mirror.



5. As rays of light approach the mirror three of the rays are easy to use to trace their path off of the mirror.

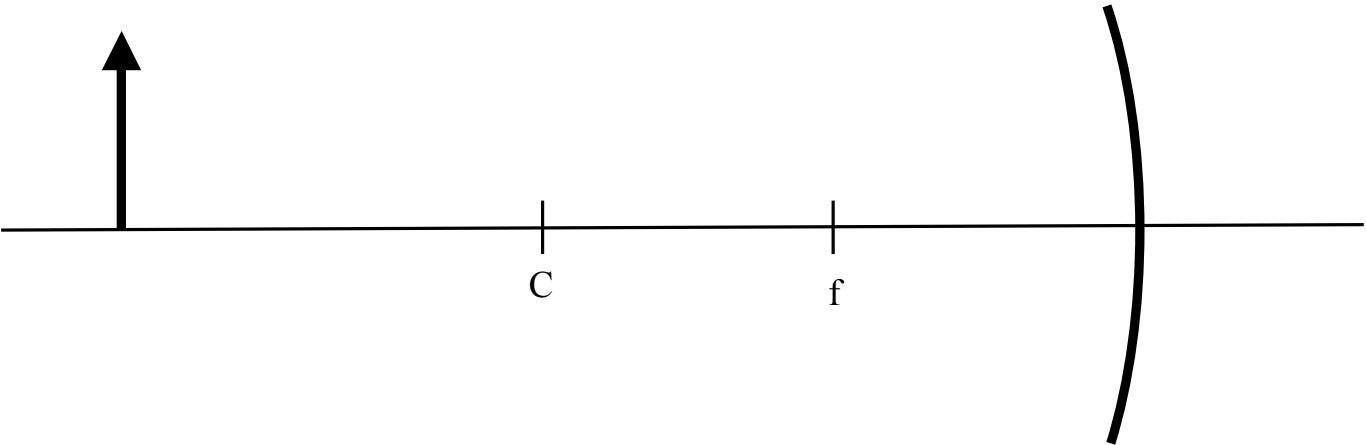


6. Let's practice a few.

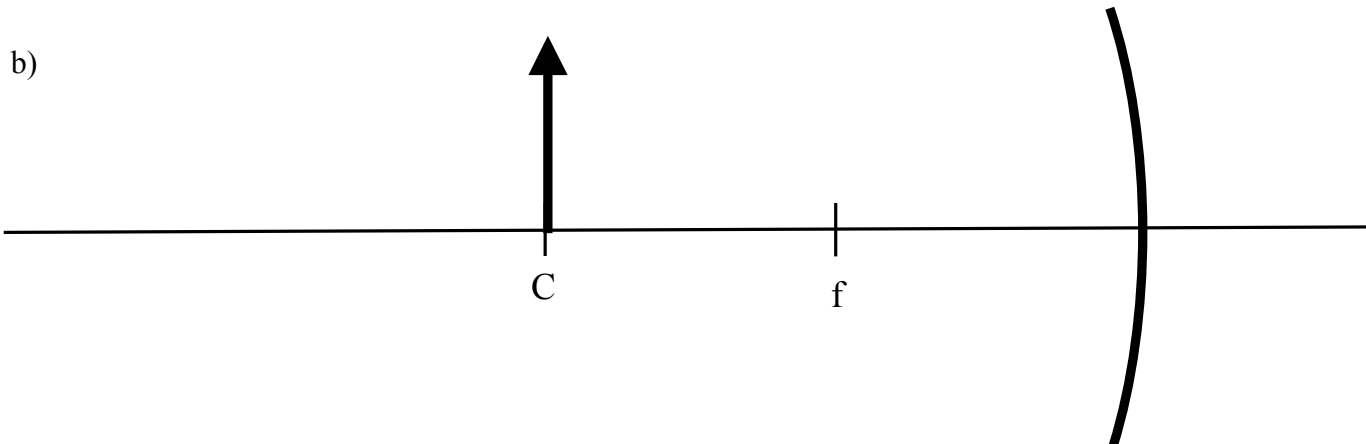


7 Instead of just a point, what if the object has some height, like an arrow.

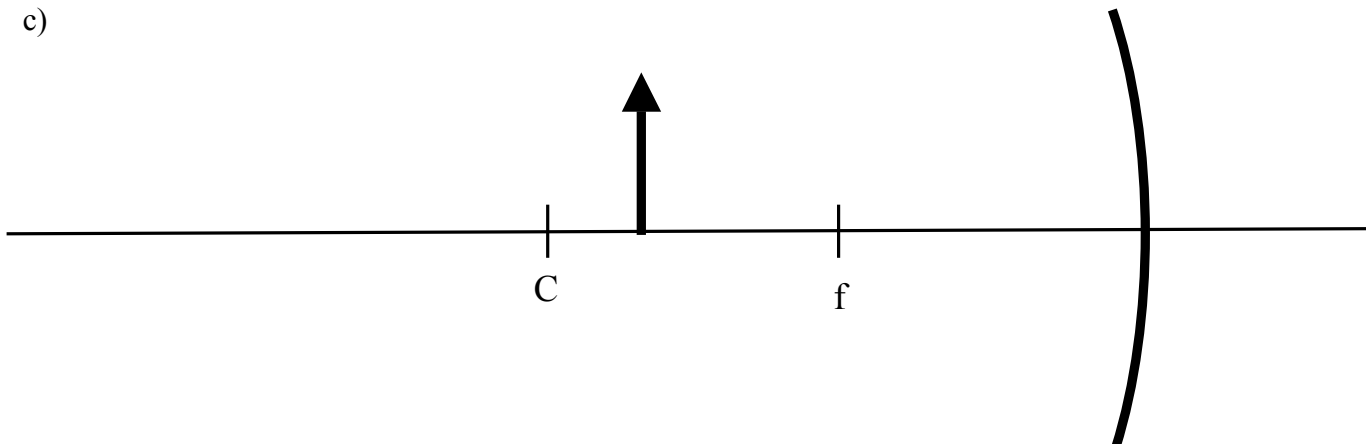
a)



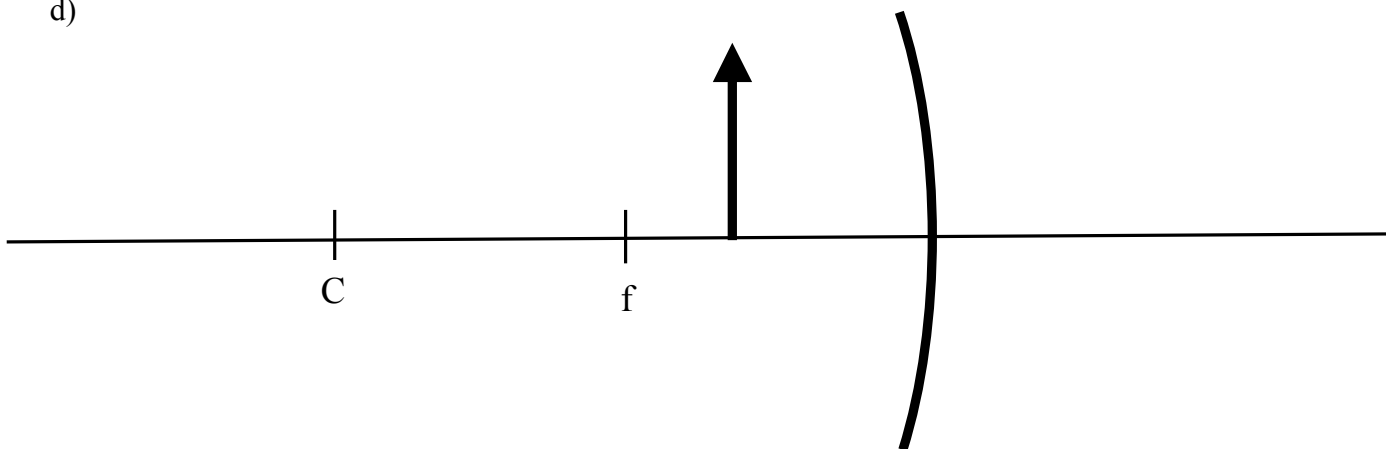
b)



c)



d)



8. There are two types of images that are formed as illustrated above in #7.

a) The image in a, b, and c is called a real image. List characteristics of a real image.

- 1 _____
- 2 _____
- 3 _____

b) The image in d is called a virtual image. List some of the characteristics of a virtual image.

- 1 _____
- 2 _____
- 3 _____

7. Complete the following table to help illustrate how the image changes as the object is placed at different distances from the screen.

Object Location	Image Location	Image size relative to object size	Type of image
Beyond "C"			
at "C"			
between "C" and "f"			
between "f" & the mirror			
at the vertex of the mirror			
at the focal point			
at infinity			