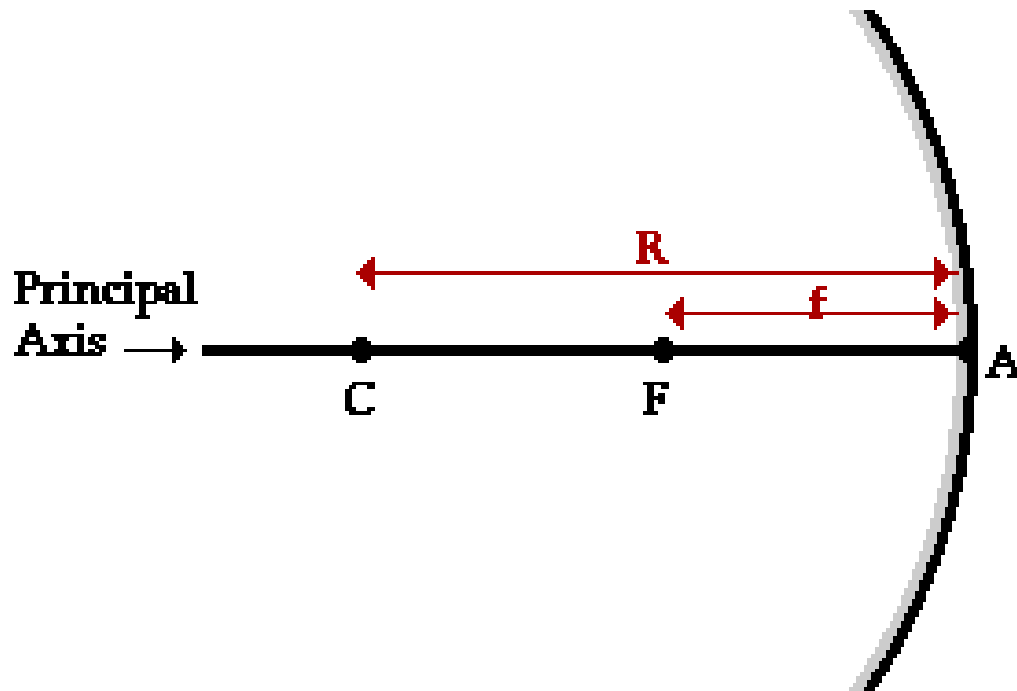


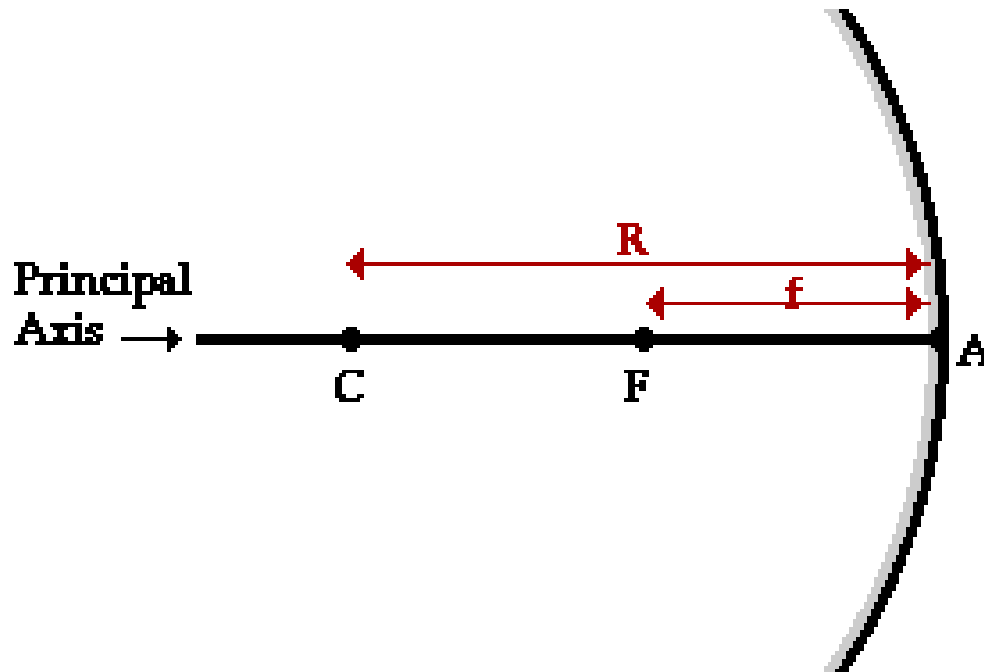
# Curved Mirror

- $C$  center of curvature
- $R$  radius of curvature

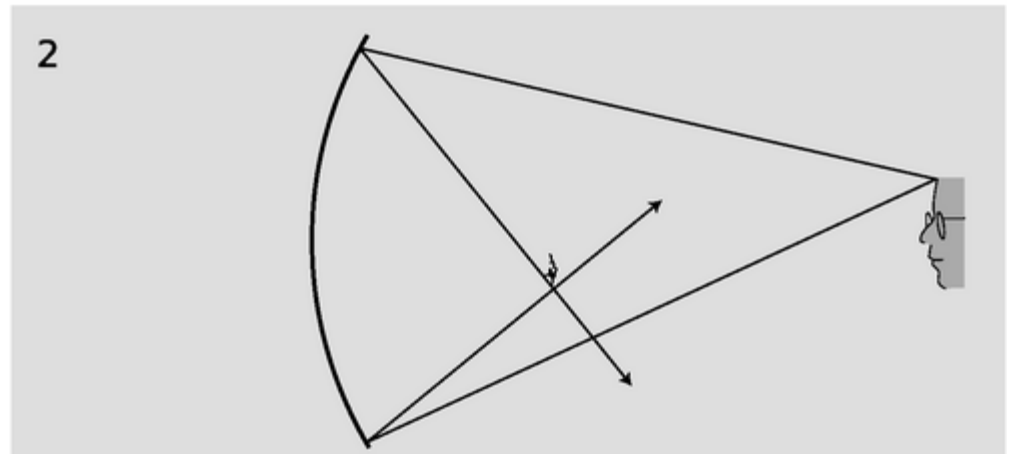
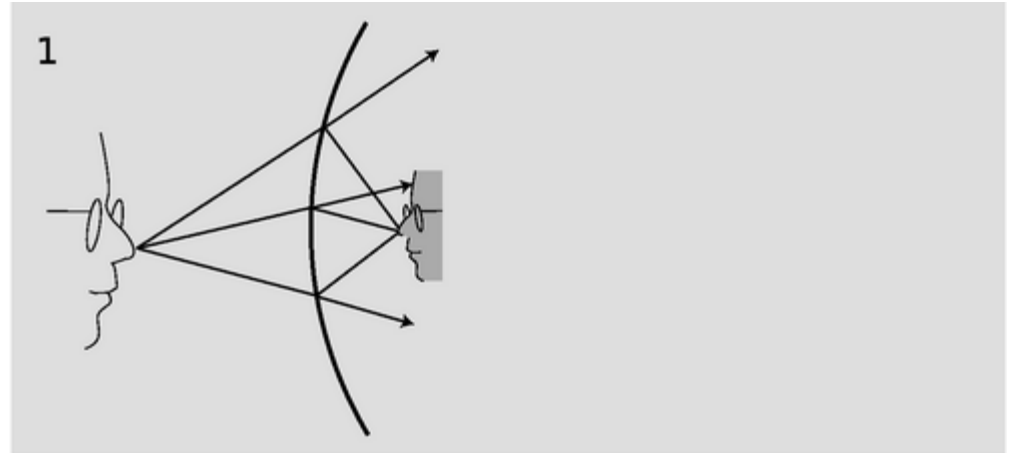


# Curved Mirrors (concave)

- $F$  focal point
- $f$  focal length (also equal to  $\frac{1}{2} R$ )

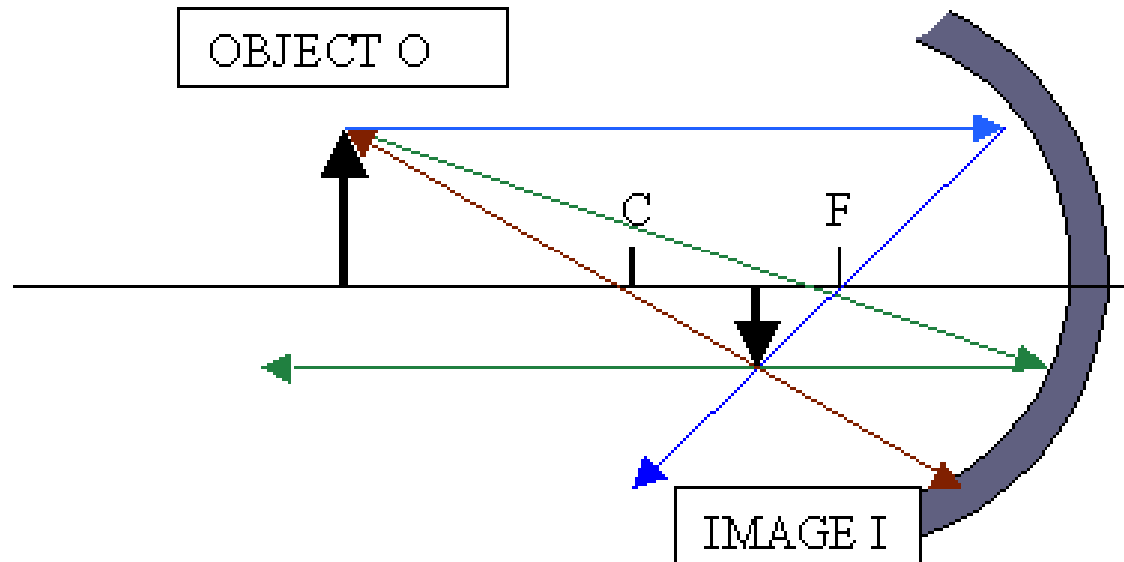


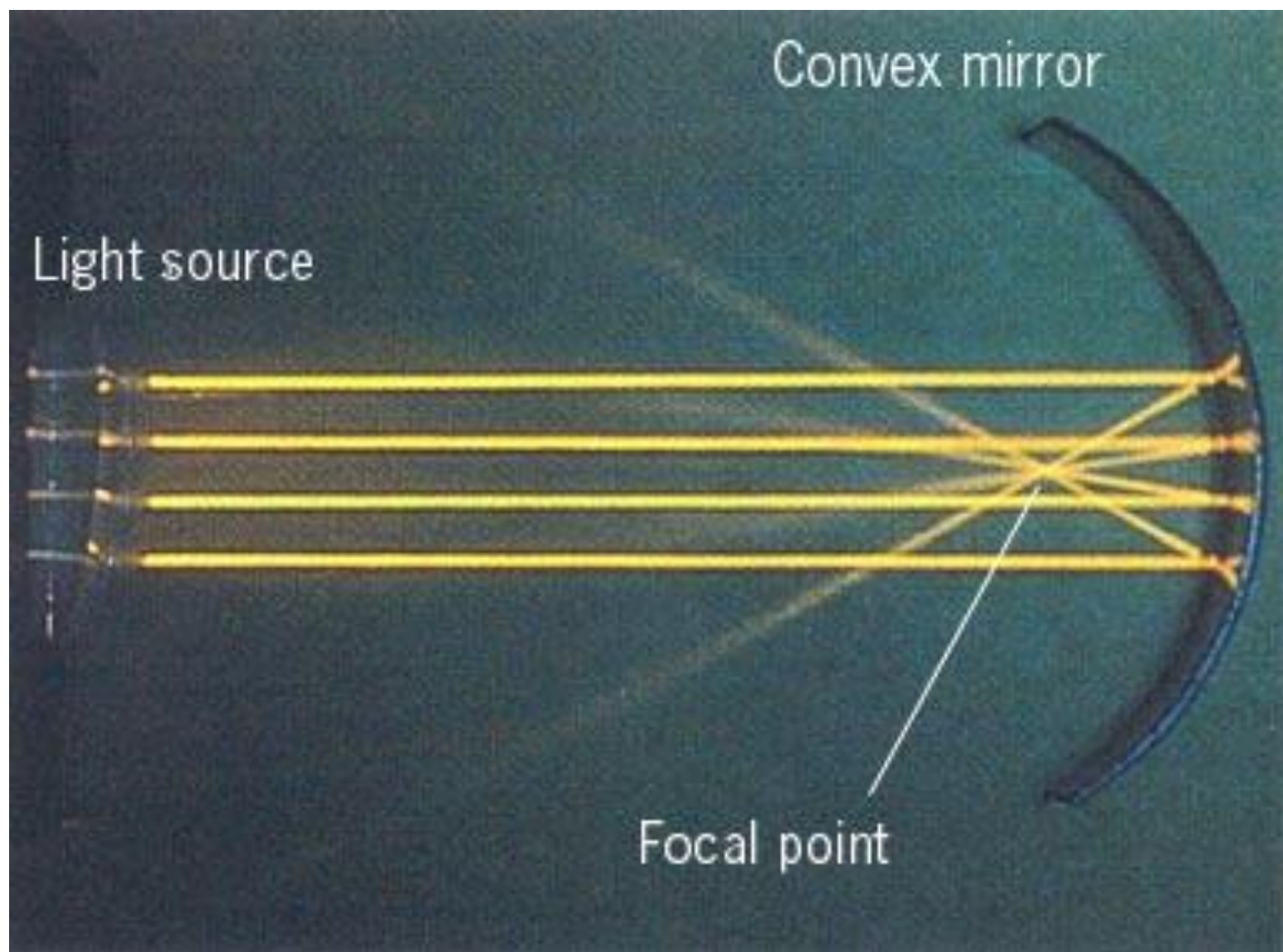
- Virtual image – produced at a point where light rays appear to come from
- Real image – produced when rays of light intersect (can be displayed on a surface)



# Mirror Terminology

- Inverted
- Upright





# Concave Mirrors

- Curved inward
- Converges light rays
- Used to produce magnified virtual images
- Can also produce real images
- Example use = make-up mirror







# Convex Mirrors

- Outwardly curved
- Diverges light rays
- Image is always virtual
- Image distance is always negative
- Focal length is always negative

# Uses of Convex Mirrors

- Can provide a view of a large area (like in a convenience store)
- Used on passenger side-view mirrors with the warning “objects are closer than they appear”



# Ray diagrams for curved mirrors

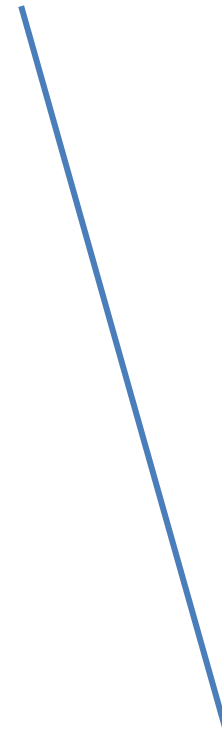
- 1. Tip of object to mirror parallel to principal axis (reflects through focal point)
- 2. Tip of object on a line that contains the focal point (reflects parallel to principal axis)
- 3. Tip of object through center of curvature (reflects back along itself)

# Homework 24

## Problem 1

In the figure on the right, indicate the smallest size of the mirror that will allow the person to see all of own reflection.

person



mirror

## Problem 2

In the figure below, construct the image of the object reflected in the convex mirror

