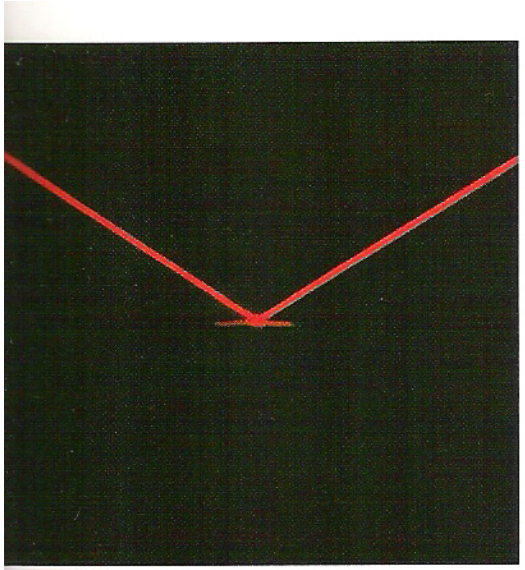
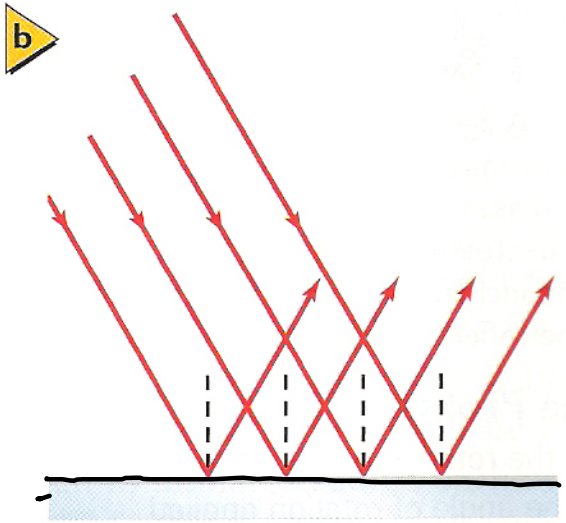
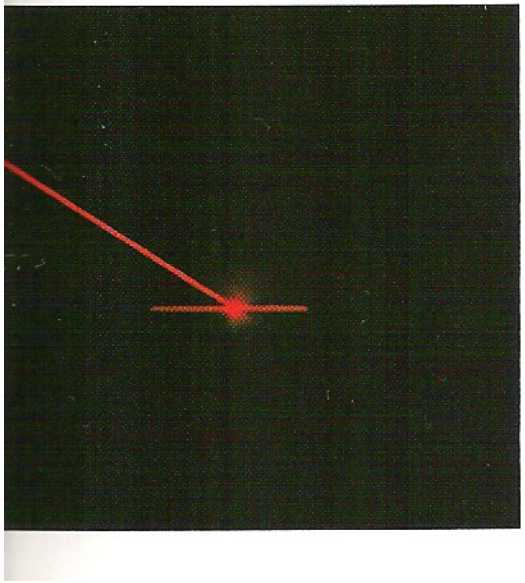
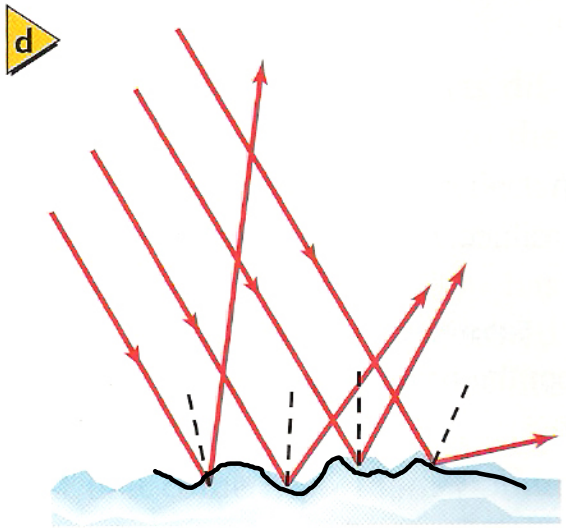
Ch 17

Mirrors (Read Pages 456 - 473)







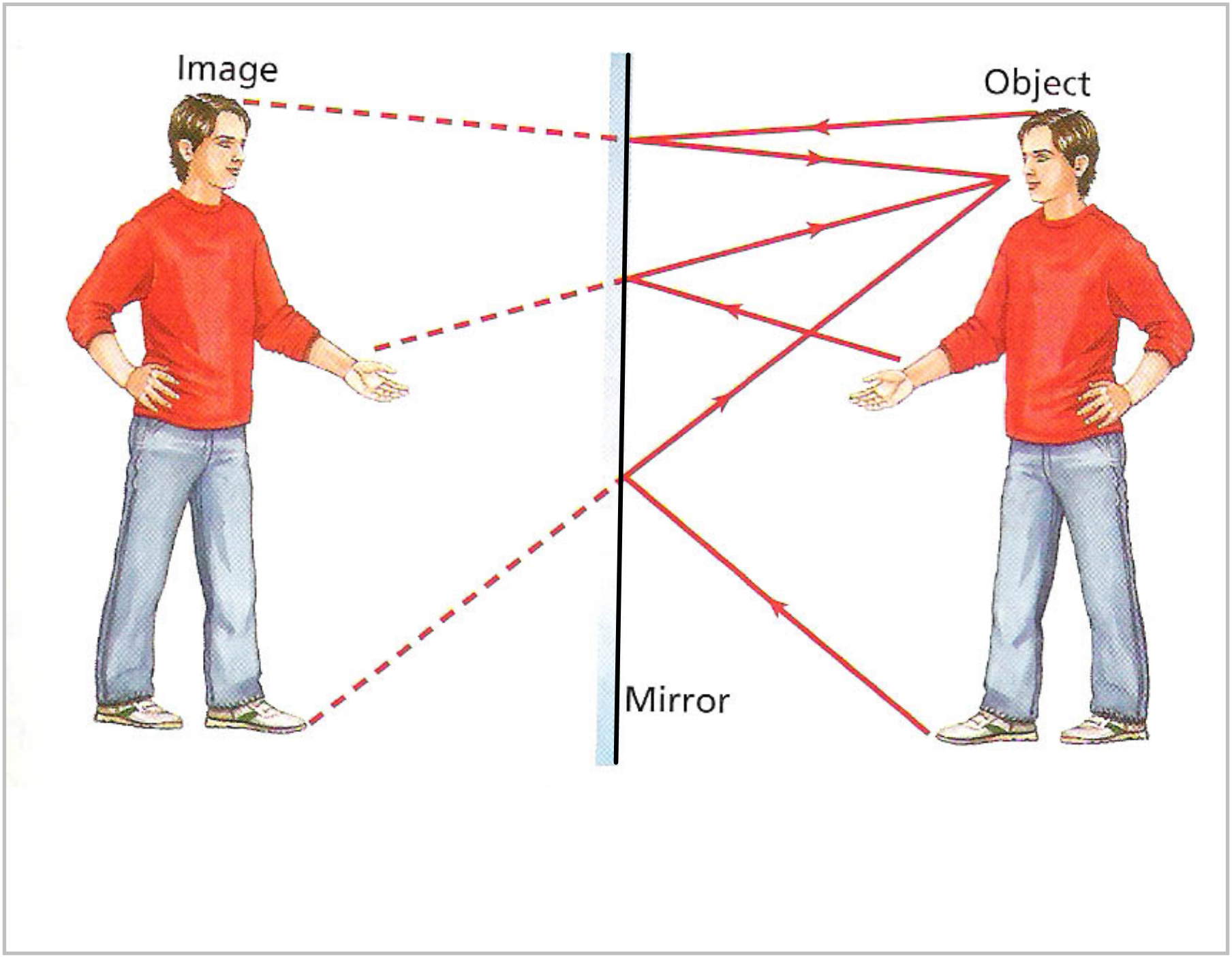


Specular (regular) reflection from a smooth surface.

Diffuse reflection from an irregular surface.

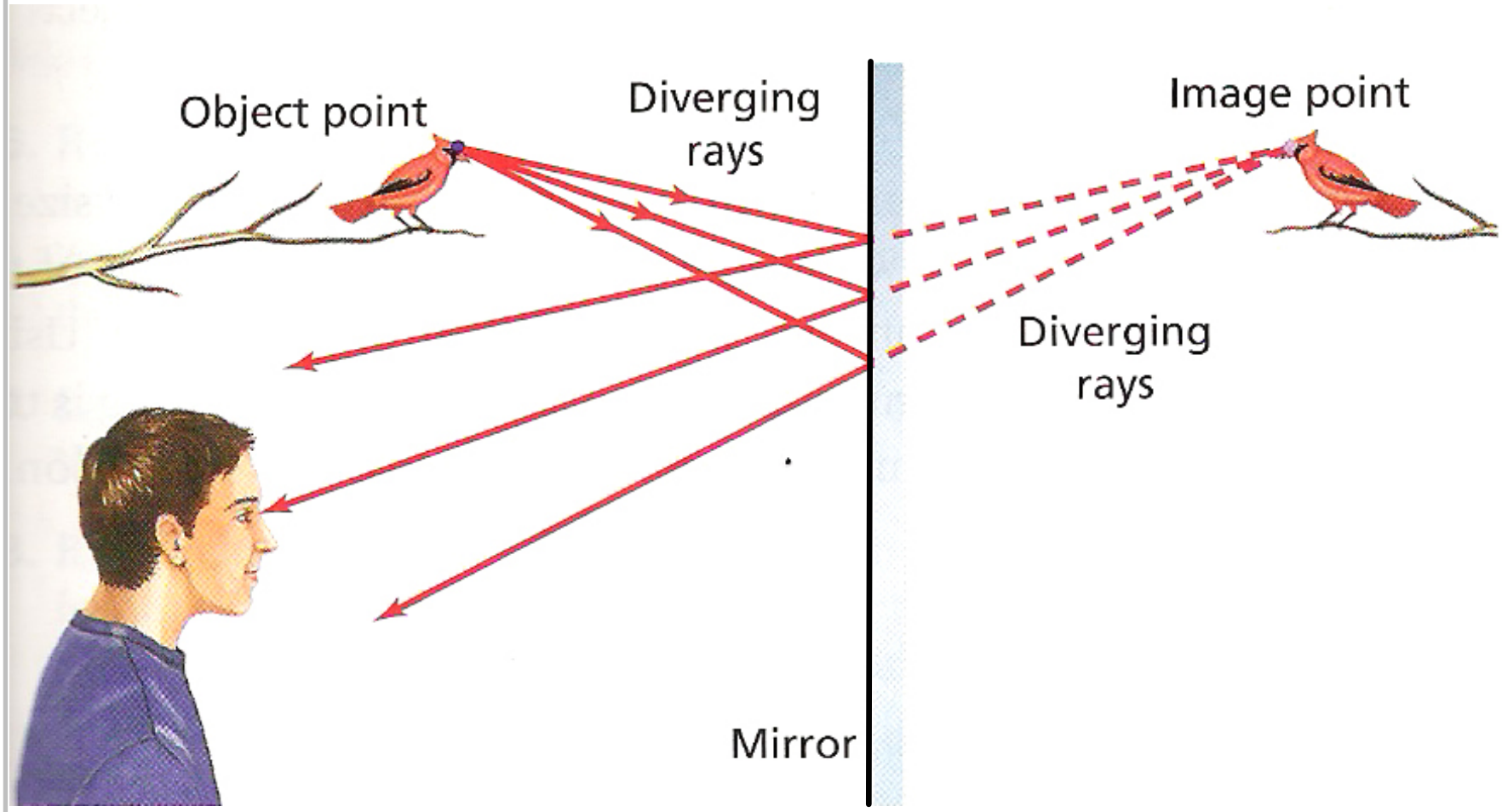
Law of Reflection

Angle of incidence = Angle of reflection



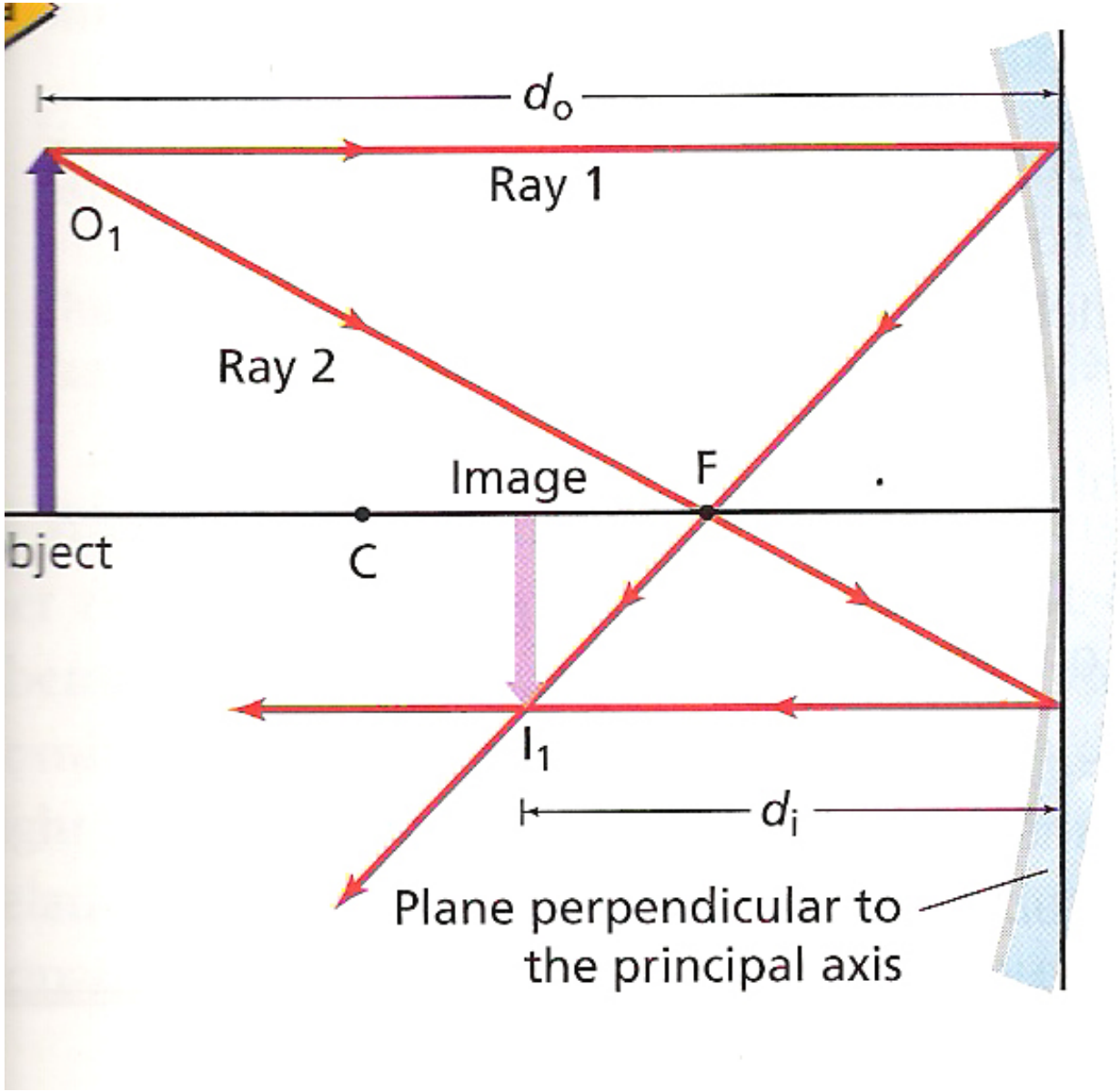
Title: Dec 30 - 8:31 PM (4 of 12)

Image formation from a plane (flat) mirror



http://ionaphysics.org/ntnujava/Lens/lens_e.html

Reflection from a concave mirror

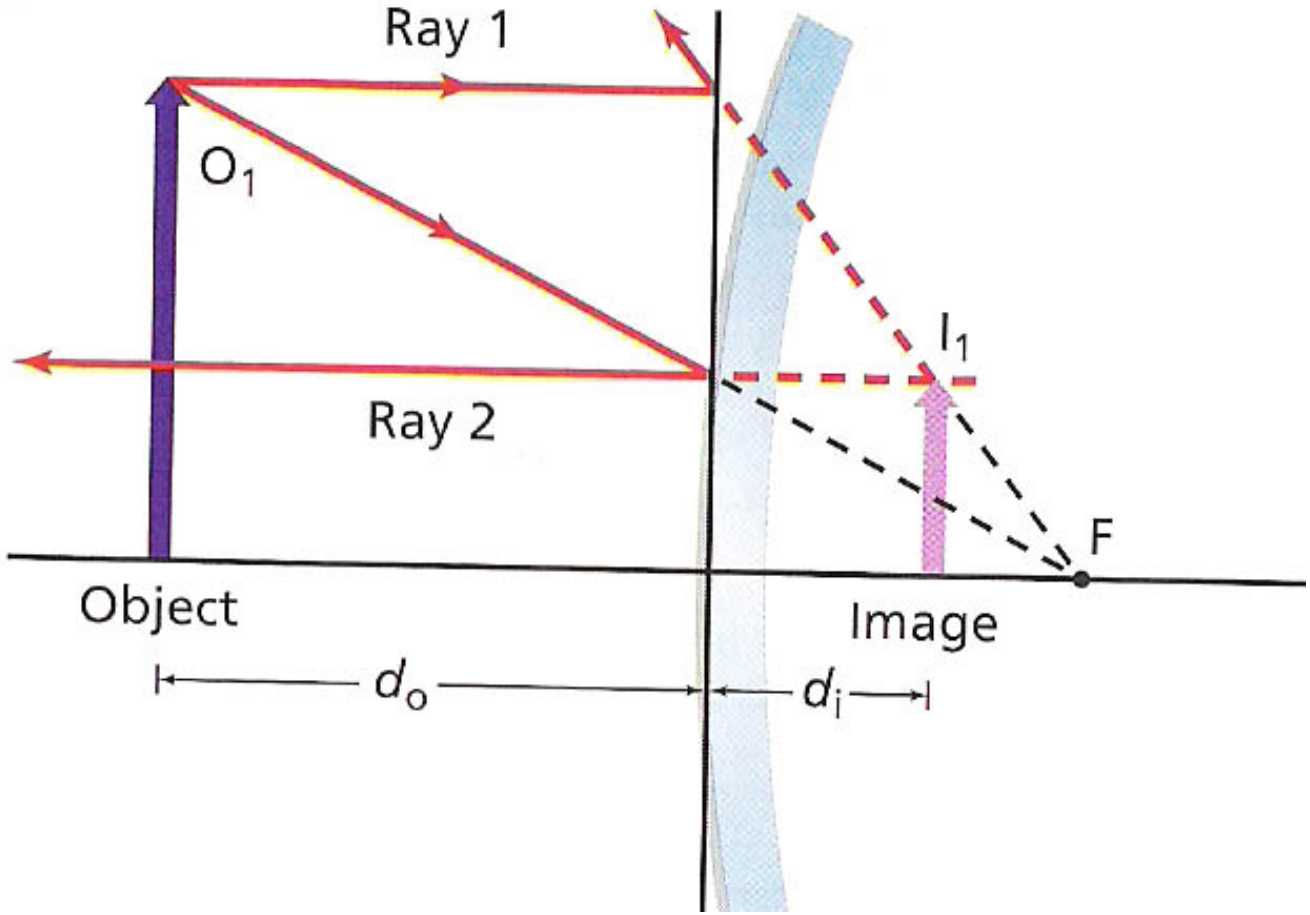


Concave Mirror Ray Diagrams

1. A ray parallel to the axis is reflected through the focus.
2. A ray through the focus is reflected parallel to the axis.
3. A ray through the center of curve is reflected back on itself.

The image is located at the intersection of the reflected rays.

Convex Mirror:



Convex Mirror Rays:

1. A ray parallel to the axis is reflected so it appears to have originated at the virtual focus
2. A ray toward the virtual focus is reflected parallel to the axis.

The image is located at the intersection of the reflected rays.

Mirror Formulae:

$$1/do + 1/di = 1/f$$

$$So/Si = Do/Di$$

1. A 4 cm tall object is 15 cm from a concave mirror having a radius of 10 cm. Find the location and size of the image.

2. How far from the above mirror would an object be placed in order to form a true-size image?

3. A 5 cm. tall object is placed 2 cm from a concave mirror having a focal length of 5 cm. Find the location and the size of the image.

4. A 4 cm. tall object is placed 8 cm from a concave mirror having a radius of 10 cm. Find the location and size of the image.