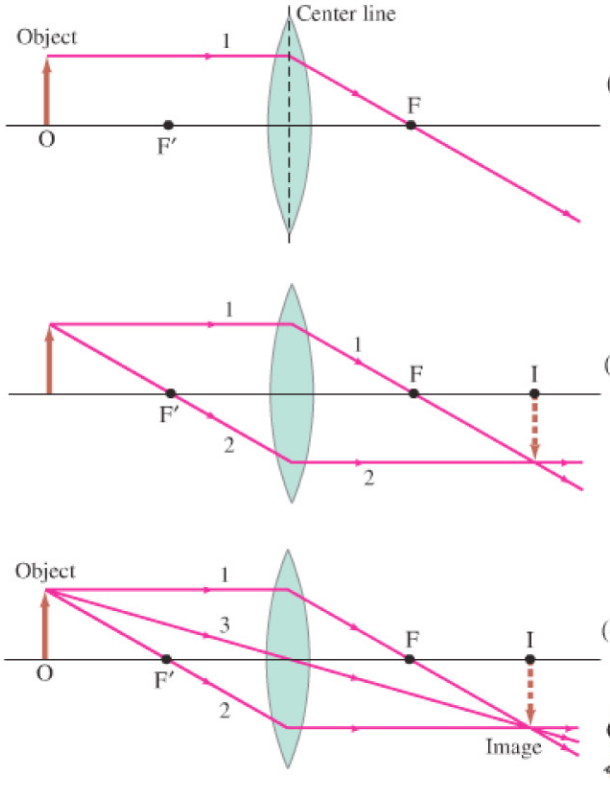
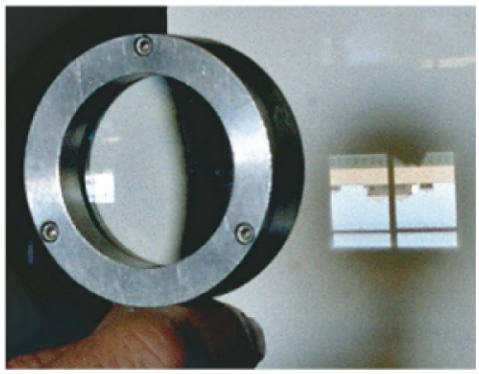


FIGURE 23–34 Finding the image by ray tracing for a converging lens. Rays are shown leaving one point on the object (an arrow). Shown are the three most useful rays, leaving the tip of the object, for determining where the image of that point is formed.

Using these three rays for one object point, we can find the image point for that point of the object (the top of the arrow in Fig. 23–34). The image points for all other points on the object can be found similarly to determine the complete image of the object. Because the rays actually pass through the image for the case shown in Fig. 23–34, it is a **real image** (see page 634). The image could be detected by film, or actually seen on a white surface or screen placed at the position of the image (Fig. 23–35).

Seeing the image

The image can also be seen directly by the eye when the eye is placed behind the image, as shown in Fig. 23–34c, so that some of the rays diverging from each point on the image can enter the eye. We can see a sharp image only for rays *diverging* from each point on the image, because we see normal objects when diverging rays from each point enter the eye as shown in Fig. 23–1. Your eye cannot focus rays converging on it; if your eye was positioned between points F and I in Fig. 23–34c, it would not see a clear image. (More about our eyes in Section 25–2.) Figure 23–35 shows an image seen (a) on a screen and (b) directly by the eye (and a camera) placed behind the image.



(a)

(b)

FIGURE 23–35 (a) A converging lens can form a real image (here of a distant building, upside down) on a screen. (b) That same real image is also directly visible to the eye. [Figure 23–29d shows images (graph paper) seen by the eye made by both diverging and converging lenses.]