

49. Since  $0 < m < 1$ , we conclude the lens is of the diverging type (so  $f = -40$  cm). Thus, substituting  $i = -3p/10$  into Eq. 35-9 produces

$$\frac{1}{p} - \frac{10}{3p} = -\frac{7}{3p} = \frac{1}{f} .$$

Therefore, we find  $p = 93.3$  cm and  $i = -28.0$  cm.