

9. We use Eqs. 35-3 and 35-4, and note that $m = -i/p$. Thus,

$$\frac{1}{p} - \frac{1}{pm} = \frac{1}{f} = \frac{2}{r} .$$

We solve for p :

$$p = \frac{r}{2} \left(1 - \frac{1}{m} \right) = \frac{35.0 \text{ cm}}{2} \left(1 - \frac{1}{2.50} \right) = 10.5 \text{ cm} .$$