

P #A

Ch 23 - Worksheet

$$f = 10.0 \text{ cm}$$

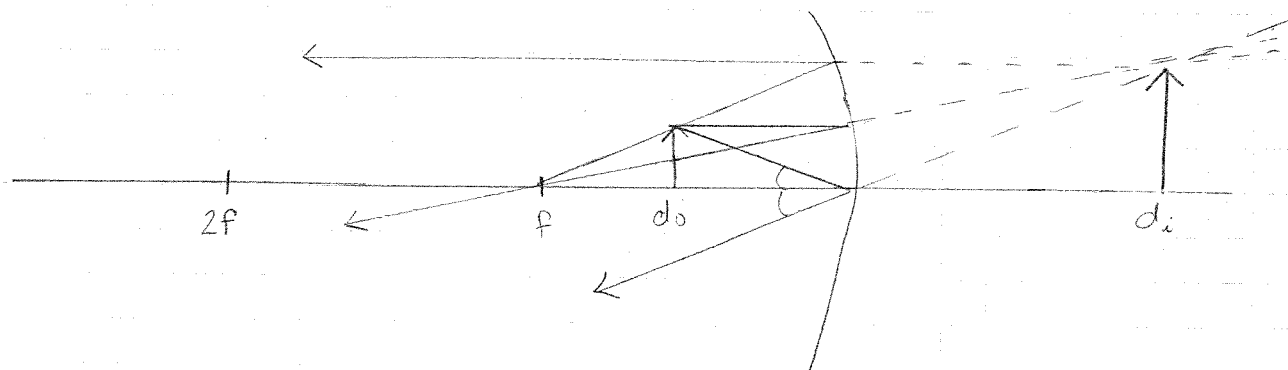
$$d_o = 6.00 \text{ cm}$$

$$a) \quad \frac{1}{d_o} + \frac{1}{d_i} = \frac{1}{f}$$

$$\frac{1}{6.00 \text{ cm}} + \frac{1}{d_i} = \frac{1}{10.0 \text{ cm}}$$

$$d_i^{-1} = (10.0 \text{ cm})^{-1} - (6.00 \text{ cm})^{-1}$$

$$d_i = -15 \text{ cm}$$



$$b) \quad d_o = 6.00 \text{ cm}$$

$$d_i = -15.0 \text{ cm}$$

$$h_o = 1.2 \text{ cm}$$

$$M = -\frac{d_i}{d_o} = -\frac{(-15.0 \text{ cm})}{6.00 \text{ cm}}$$

$$M = 2.5$$

$$M = \frac{h_i}{h_o}$$

$$2.5 = \frac{h_i}{1.2 \text{ cm}}$$

$$h_i = 3.0 \text{ cm}$$