

P #7

Ch 23 - pg 742

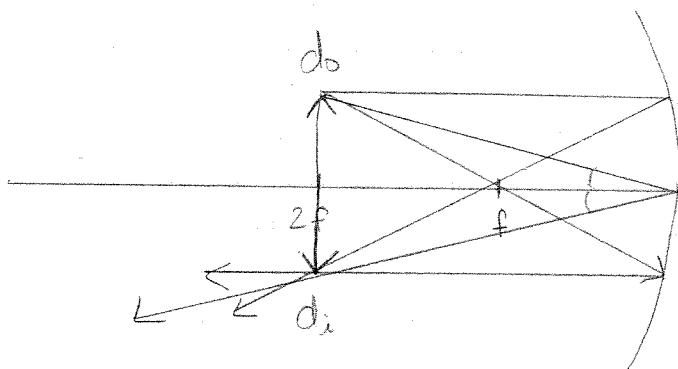
b) $f = 10.0 \text{ cm}$
 $d_o = 20.0 \text{ cm}$

$$\frac{1}{d_o} + \frac{1}{d_i} = \frac{1}{f}$$

$$\frac{1}{20 \text{ cm}} + \frac{1}{d_i} = \frac{1}{10 \text{ cm}}$$

$$(20 \text{ cm})^{-1} + d_i^{-1} = (10 \text{ cm})^{-1}$$

$$d_i = 20 \text{ cm}$$



$$M = -\frac{d_i}{d_o} = -\frac{(20 \text{ cm})}{(20 \text{ cm})}$$

$$M = -1$$

Real,
Inverted

c) $f = 10.0 \text{ cm}$
 $d_o = 10.0 \text{ cm}$

$$\frac{1}{d_o} + \frac{1}{d_i} = \frac{1}{f}$$

$$\frac{1}{10 \text{ cm}} + \frac{1}{d_i} = \frac{1}{10 \text{ cm}}$$

$$(10 \text{ cm})^{-1} + d_i^{-1} = (10 \text{ cm})^{-1}$$

$$d_i = \infty$$

No image forms