P #47

Ch 23 - pg 744

$S_o = 10\,cm$
$S_i = 8\,cm$

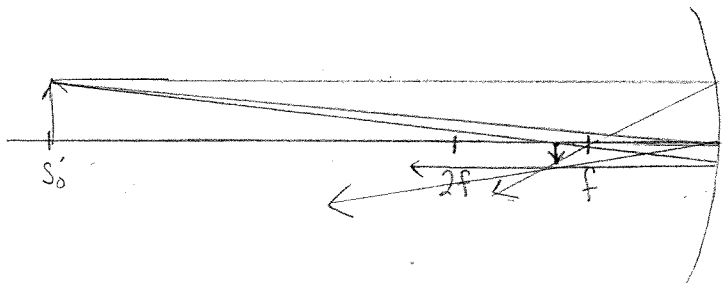
Find f: $\frac{1}{S_o} + \frac{1}{S_i} = \frac{1}{f}$

$\frac{1}{10} + \frac{1}{8} = \frac{1}{f}$

$f^{-1} = 10^{-1} + 8^{-1}$

$f = 4.44\,cm$

$f = 4.44\,cm$
$S_o' = 20.0\,cm$
$S_i' = ?$



$\frac{1}{S_o} + \frac{1}{S_i} = \frac{1}{f}$

Real

$\frac{1}{20} + \frac{1}{S_i'} = \frac{1}{4.44}$

$S_i'^{-1} = 4.44^{-1} - 20^{-1}$

$S_i' = 5.71\,cm$