3. $\frac{1}{p_1} + \frac{1}{q_1} = \frac{1}{f_1}$

$\frac{1}{3.85} + \frac{1}{q_1} = \frac{1}{-5.50}$ $\quad q_1 = -2.26\,cm$

$p_2 = 9.21 - (-2.26) = 11.47$

$\frac{1}{p_2} + \frac{1}{q_2} = \frac{1}{f_2}$

$\frac{1}{11.47} + \frac{1}{q_2} = \frac{1}{7.74}$ $\quad q_2 = 23.8\,cm$

(b) 23.8 to the right of the second (converg.) lens.

(c) $h = \frac{q_1 q_2}{p_1 p_2} h_{orig} = \frac{(2.26)(23.8)}{(3.85)(11.47)}(2.54)$

$= \underline{3.09\,cm}$

(d) inverted

(e) real