60. (a) Suppose that the lens is placed to the left of the mirror. The image formed by the converging lens is located at a distance

$$i = \left(\frac{1}{f} - \frac{1}{p}\right)^{-1} = \left(\frac{1}{0.50\,\text{m}} - \frac{1}{1.0\,\text{m}}\right)^{-1} = 1.0\ \text{m}$$

to the right of the lens, or $2.0\,\text{m} - 1.0\,\text{m} = 1.0\,\text{m}$ in front of the mirror. The image formed by the mirror for this real image is then at 1.0 m to the right of the the mirror, or $2.0\,\text{m} + 1.0\,\text{m} = 3.0\,\text{m}$ to the right of the lens. This image then results in another image formed by the lens, located at a distance

$$i' = \left(\frac{1}{f} - \frac{1}{p'}\right)^{-1} = \left(\frac{1}{0.50\,\text{m}} - \frac{1}{3.0\,\text{m}}\right)^{-1} = 6.0\ \text{m}$$

to the left of the lens (that is, 2.6 cm from the mirror).

(b) The final image is real since $i' > 0$.

(c) It also has the same orientation as the object, as one can verify by drawing a ray diagram or finding the product of the magnifications (see the next part, which shows $m > 0$).

(d) The lateral magnification is

$$m = \left(-\frac{i}{p}\right)\left(-\frac{i'}{p'}\right) = \left(-\frac{1.0\,\text{m}}{1.0\,\text{m}}\right)\left(-\frac{0.60\,\text{m}}{3.0\,\text{m}}\right) = +0.20\ .$$