27. Without the diverging lens (lens 2), the real image formed by the converging lens (lens 1) is located at a distance

$$i_1 = \left(\frac{1}{f_1} - \frac{1}{p_1}\right)^{-1} = \left(\frac{1}{20\,\text{cm}} - \frac{1}{40\,\text{cm}}\right)^{-1} = 40\ \text{cm}$$

to the right of lens 1. This image now serves as an object for lens 2, with $p_2 = -(40\,\text{cm} - 10\,\text{cm}) = -30\,\text{cm}$. So

$$i_2 = \left(\frac{1}{f_2} - \frac{1}{p_2}\right)^{-1} = \left(\frac{1}{-15\,\text{cm}} - \frac{1}{-30\,\text{cm}}\right)^{-1} = -30\ \text{cm}\ .$$

Thus, the image formed by lens 2 is located 30 cm to the left of lens 2. It is virtual (since $i_2 < 0$). The magnification is $m = (-i_1/p_1) \times (-i_2/p_2) = +1$, so the image has the same size and orientation as the object.