28. (a) For the image formed by the first lens

$$i_1 = \left(\frac{1}{f_1} - \frac{1}{p_1}\right)^{-1} = \left(\frac{1}{10\,\text{cm}} - \frac{1}{20\,\text{cm}}\right)^{-1} = 20\ \text{cm}\ .$$

For the subsequent image formed by the second lens $p_2 = 30\,\text{cm} - 20\,\text{cm} = 10\,\text{cm}$, so

$$i_2 = \left(\frac{1}{f_2} - \frac{1}{p_2}\right)^{-1} = \left(\frac{1}{12.5\,\text{cm}} - \frac{1}{10\,\text{cm}}\right)^{-1} = -50\ \text{cm}\ .$$

Thus, the final image is 50 cm to the left of the second lens, which means that it coincides with the object. The magnification is

$$m = \left(\frac{i_1}{p_1}\right)\left(\frac{i_2}{p_2}\right) = \left(\frac{20\,\text{cm}}{20\,\text{cm}}\right)\left(\frac{-50\,\text{cm}}{10\,\text{cm}}\right) = -5.0\ ,$$

which means that the final image is five times larger than the original object.

(b) The ray diagram would be very similar to Fig. 35-17 in the textbook, except that the final image would be directly underneath the original object.

(c) and (d) It is virtual and inverted.