

Answer on Question #72093-Physics-Optics

A diverging lens, with a focal length of -7 cm is placed 46 cm behind the converging lens. Relative to the diverging lens, where is the image (of the candle) formed by the converging lens?

Solution

The lens formula:

$$\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$$

$$\frac{1}{-7} = \frac{1}{46} + \frac{1}{v}$$

$$\frac{1}{v} = \frac{1}{-7} - \frac{1}{46} = -\frac{53}{322}$$

$$v = -\frac{322}{53} = -6.075 \text{ cm.}$$

Answer: -6.075 cm.

Answer provided by <https://www.AssignmentExpert.com>