

**Answer on Question #60009-Physics-Optics**

The focal length of a converging lens is 20 cm. The image of the object placed 60 cm from the centre of this lens is real and \_\_\_\_\_

**Answer: inverted.**

$$u = 60 \text{ cm}, f = 20 \text{ cm}.$$

$$\frac{1}{v} = \frac{1}{f} - \frac{1}{u} = \frac{1}{20} - \frac{1}{60} = \frac{1}{30}$$

$$v = 30 \text{ cm}$$

The image is real and is formed on the other side of the lens. The magnification is

$$m = -\frac{30}{60} = -\frac{1}{2}$$

The negative sign tells us that the image is inverted.