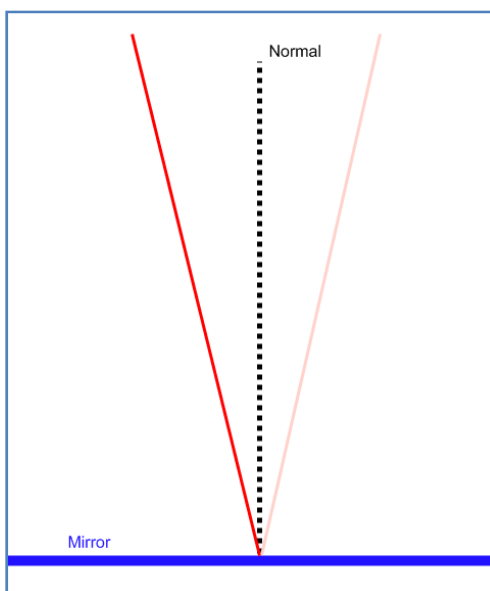


1. Light is incident on a plane mirror at an angle of  $30^\circ$  relative to the normal. What is the angle of reflection?



*The angle of incident is equal to the angle of reflection all with respect to the normal. So, the angle of incident is  $30^\circ$  relative to the normal so the angle of reflection will be  $30^\circ$  relative to the normal.*

6. The speed of light in a particular type of glass is  $1.60 \times 10^8$  m/s.

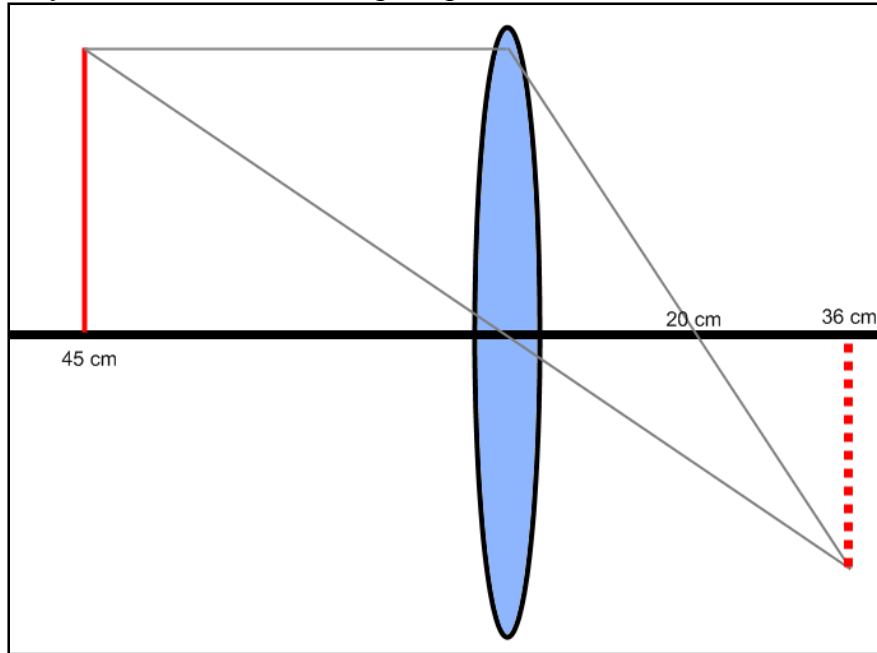
$$n = \frac{c}{c_m}$$

$$n = \frac{3.0 \times 10^8 \text{ m/s}}{1.6 \times 10^8 \text{ m/s}}$$

$$n = 1.9$$

15. An object is placed 45 cm in front of a converging lens with a focal length of 20 cm. Estimate the image distance and give the image characteristics.

*You will need a ruler to answer this question. Your final answer should look very similar to the following diagram:*



*Real image, 36 cm from the lens and inverted.*

FOR CHECKING YOUR ANSWER ONLY