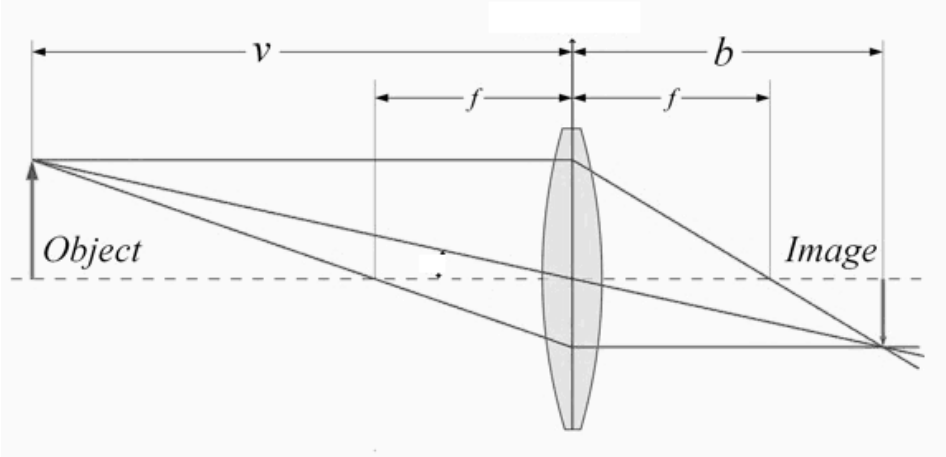
Answer on Question #48662 – Physics – Optics

1. An object is placed 10 cm in front of a convex mirror of focal length 4 cm. Find the image location by drawing a ray tracing diagram to scale. Verify your answer using the lens equation.

$v = 0.1\,m$	*Solution.*
$f = 0.04\,m$	One can calculate the image location using the lens equation:
$b - ?$	$\frac{1}{v} + \frac{1}{b} = \frac{1}{f}$,

where v (b) is the object location (the image location) and f is the focal length.

So, $b = \frac{1}{1/f - 1/v} = \frac{1}{1/0.04 - 1/0.1} = 0.067(m)$.



Answer: $6.7\,cm$.