كلية المستقبل
قسم الفيزياء الطبية
المرحلة الثانية

مختبر بصريات
تجربة (4)

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Finding the focal length by using a convex lens in a direct way

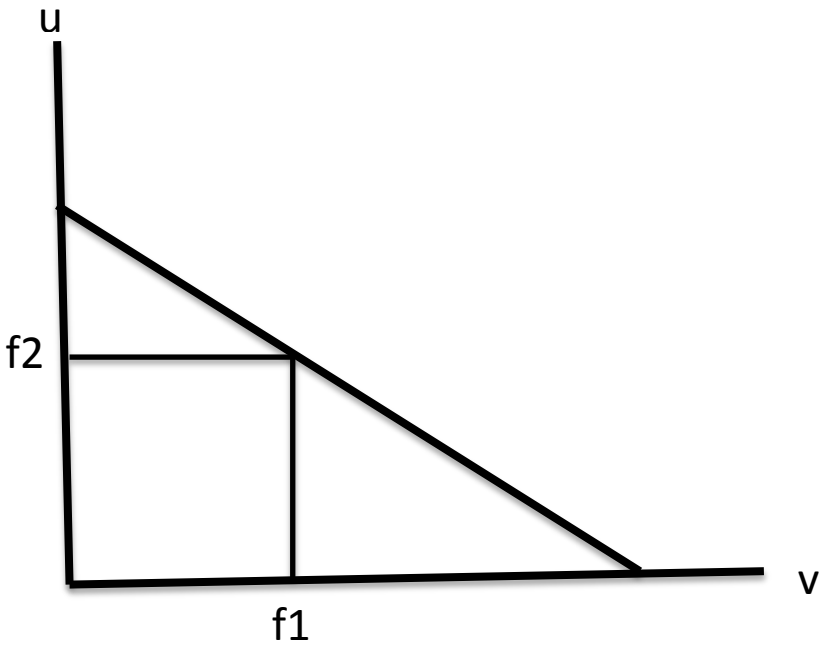
Theory

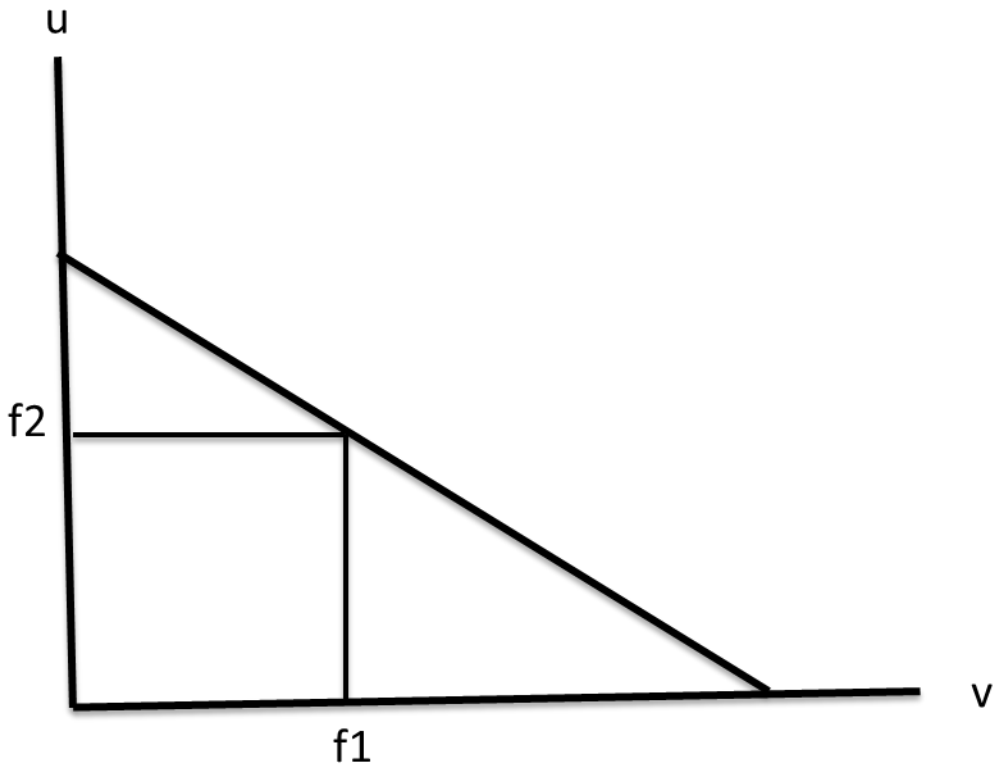
A convex lens is used as a magnifying lens, so if an object is placed between the lens and its focus, the viewer on the other side of the lens sees an enlarged image of the object at a distance greater than the actual object's distance from it, but if the object is placed at a distance from the lens greater than its focal distance, you will not see any image of it. But you can get a real picture of it (upside down) on a sheet of paper or a curtain on the other side of the lens. Especially if the object is bright or well-lit. In the case of the concave lens, it is on the contrary, it is used to reduce the image, as the concave lens creates an approximate moderate (non-inverted) image of a minimized body in the same side where the body is located, and the concave lens also works to disperse the rays.

Several distances are taken between the body and the D screen, then the distance of the body from the lens u is calculated, then the image distance from the lens is extracted through the following relationship.

$v = D-u$

Then we plot a graph between v on the x-axis and u on the y-axis.

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