

Question: Thin lenses

You answered **D**, and gave this rationale:

"I think the intensity of the light is proportional to the diameter of the lens."

Consider the problem again, noting the rationales below that have been provided by other students. They may, or may not, cause you to reconsider your answer. Read them and select your final answer:

D.

- ☒ Clearly not all rays will hit the screen, but enough rays emerging from all of the object WILL hit the screen. The final real image will be complete, but will be less bright (hence dimmer) because not all of the light intensity goes through the lens.
 - ☐ *The image will still form, however it will be dimmer than the original if was covered since there would be more light coming in if there was nothing covering it.*
 - ☐ by covering the lens you only dim down the image you are not decreasing the actual object yourself.
 - ☐ the light image wont be as bright since it escapes a little around the lenses
 - ☐ I stick to my own rationale.
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A.

- ☐ The image is inverted therefore the top half of the original image is on the bottom half of the image formed on the screen. If we cover the bottom half of the screen, we cannot see the top half of the original image.
- ☐ *Since the image is inverted, the bottom part that is covered would have been placed at the top. And since it is covered, that part will be missing in the final image.*
- ☐ The bottom rays will not pass through the lens, but the top rays will. Since the final real image is inverted, then only the bottom part of the image will be present (representing the top part of the object).
- ☐ By blocking the lower half of the lens, you block the rays that end up forming the top half of the image (note that the image is inverted!); therefore the top half will be missing.