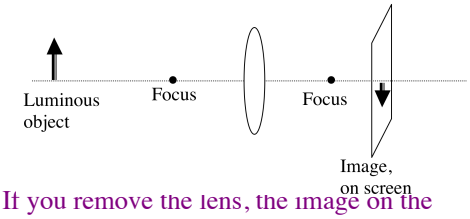
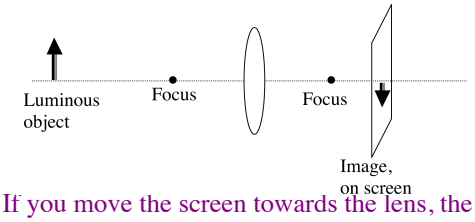


If you remove the lens, the image on the screen...

A) remains the same B) gets a bit dimmer
C) becomes fuzzier. D) becomes upright
E) disappears

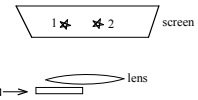


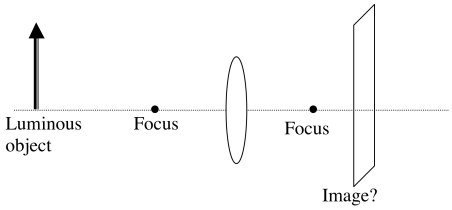
If you move the screen towards the lens, the image:

A) remains the same B) gets a bit dimmer
C) becomes fuzzier. D) becomes upright
E) disappears

What happens to the images on the screen when the mask is inserted over the left half the lens?

A)Image 1 vanishes
B) Image 2 vanishes
C) Something else happens



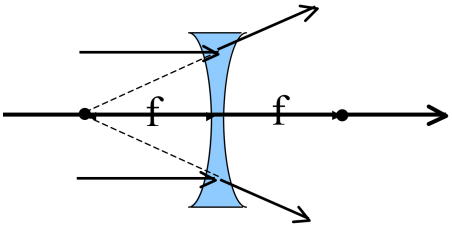


Note the object is taller than the lens. The image on the screen is...

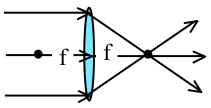
A) complete B) chopped off at the top
C) chopped off at the bottom

Lens equation: $\frac{1}{d_o}+\frac{1}{d_i}=\frac{1}{f}$

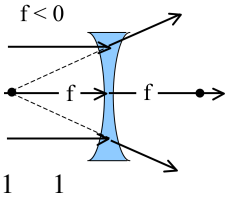
Diverging Lens: f < 0



Converging lens
f > 0



Diverging lens
f < 0

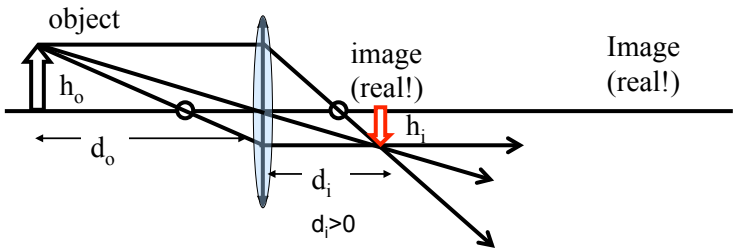


Lens equation: $\frac{1}{d_o}+\frac{1}{d_i}=\frac{1}{f}$

d>0 means "real"

(Virtual images are behind the lens, and d<0)

Activity


object
image
(real!)
Image
(real!)
h_o
h_i
d_o
d_i
$d_i>0$

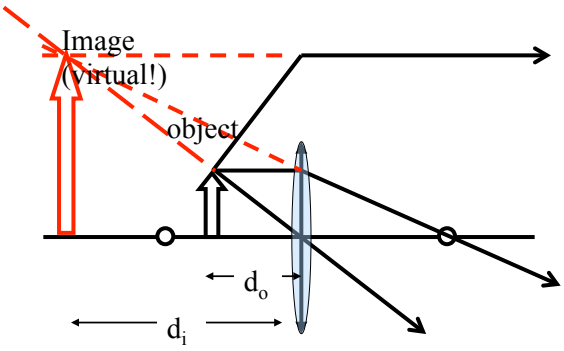
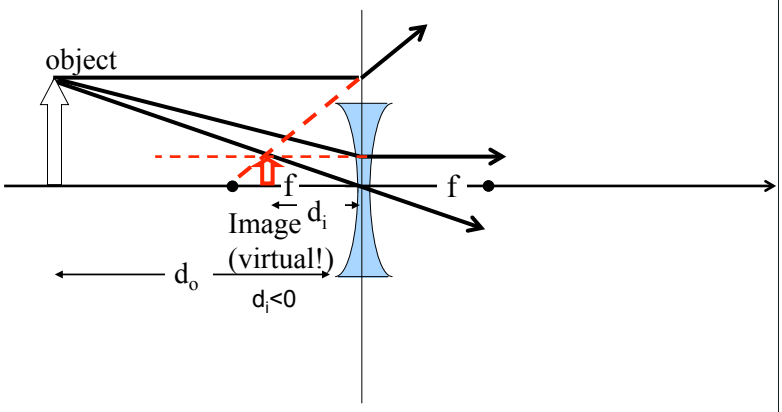
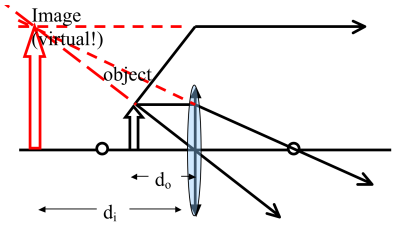


Image
(virtual!)
object
d_o
d_i





For

A) $f > 0, \quad d_o > 0, \quad d_i < 0.$

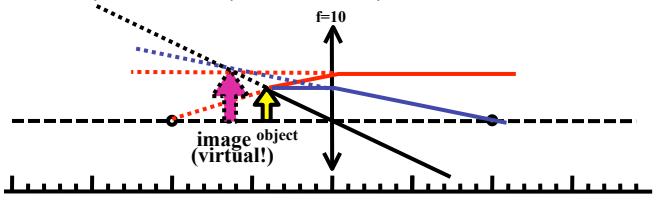
B) $f < 0, \quad d_o > 0, \quad d_i < 0.$

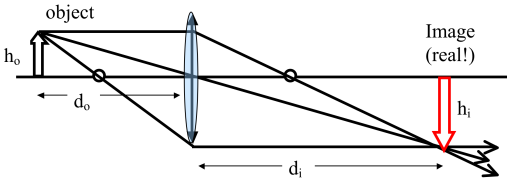
C) $f > 0, \quad d_o < 0, \quad d_i > 0.$

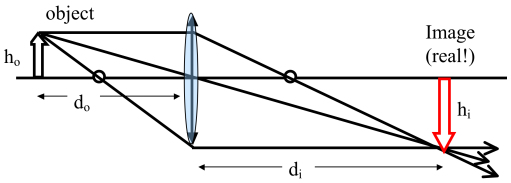
D) $f > 0, \quad d_o > 0, \quad d_i > 0.$

A lens has f = +10 cm. An object is 4 cm from the lens. Where does a viewer looking through the lens perceive the object?

A) 10 cm B) -3.3 cm C) 3.3 cm

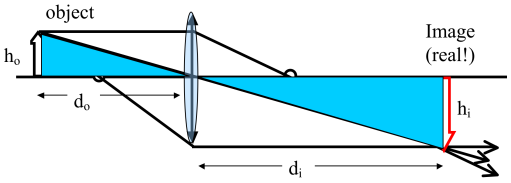






Magnification:

$$m = \frac{h_{image}}{h_{object}}$$



Magnification:

$$m = \frac{h_{image}}{h_{object}} = -\frac{d_{image}}{d_{object}}$$

An object is placed near a diverging lens. The object is farther from the lens than the absolute value of the focal length of the lens.
(I.e. the object is "outside the focus")

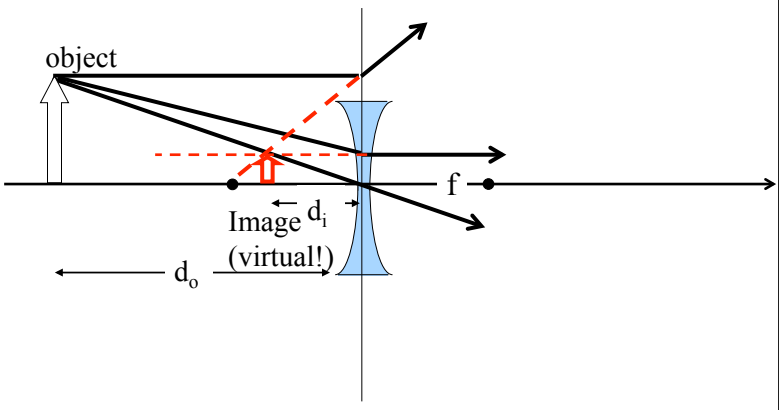
The image formed is..

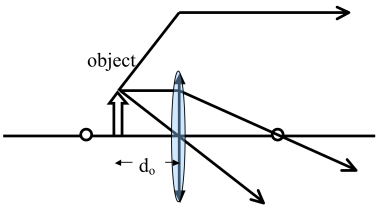
A) Real B) Virtual C) there is no image.

The magnitude of the image distance is...

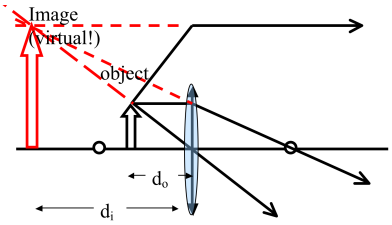
A) smaller than B) greater than

...the object distance.





If d_o = 5cm, $|d_i|$ = 15 cm, and the object height h_o is 1cm...



If d_o = 5cm, $|d_i|$ = 15 cm, and the object height h_o is 1cm, what is the image height h_i ?

A) 2 cm B) 3 cm C) 4 cm D) Other

E) I don't know how to do this.