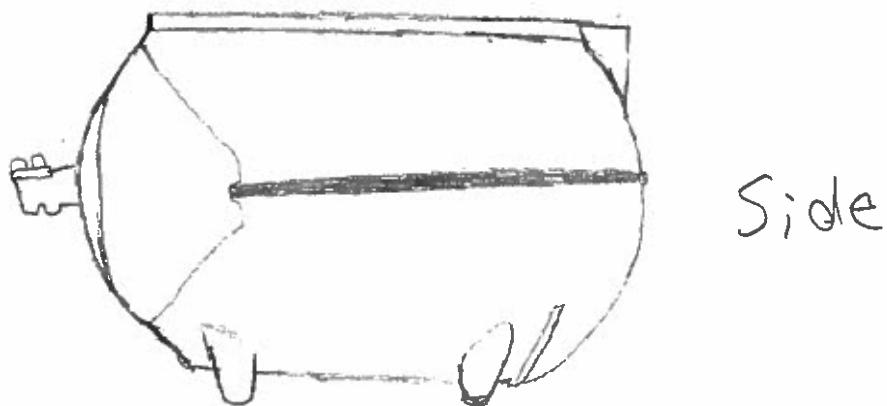
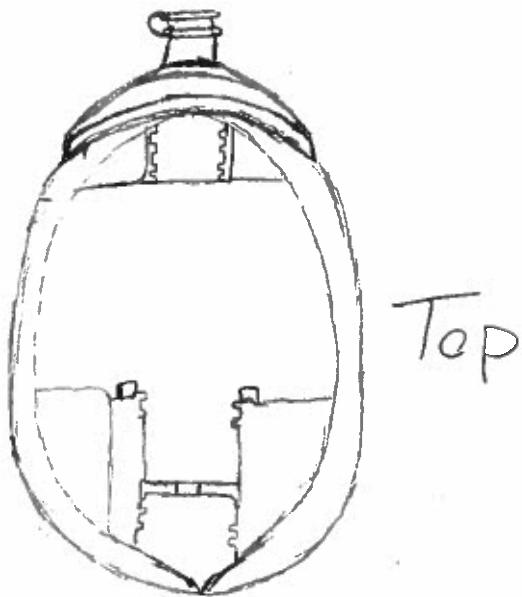
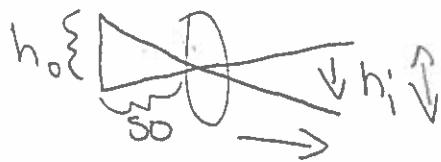


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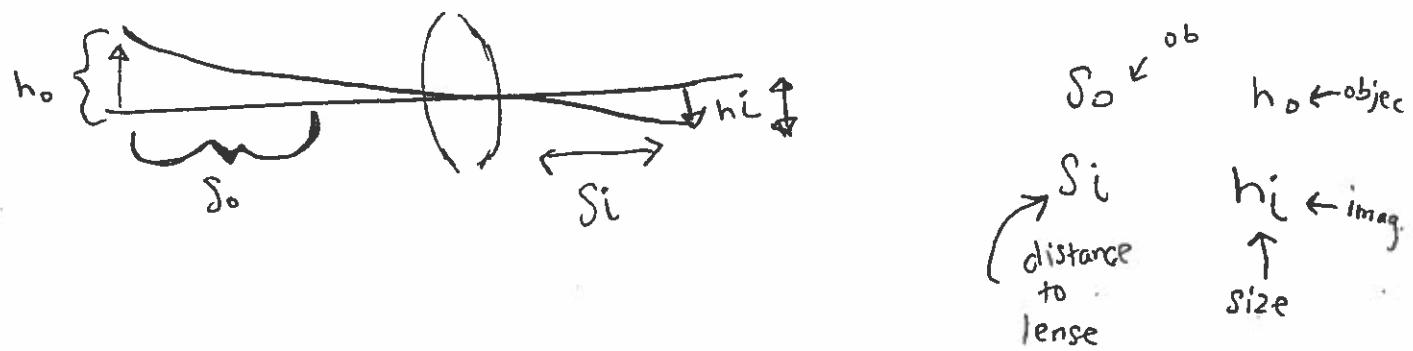
$\leftarrow$  object  
so  $\leftarrow$  object  
 $\rightarrow$  image  
 $h_o$   $\leftarrow$   $h_i \in$  image  
distance  
to lens



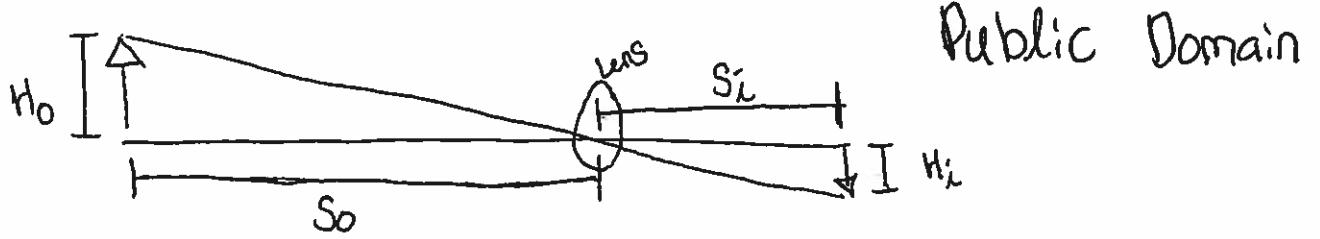
In the lab, we used different lens to make a picture inside the eye model. In the first part, we used a light to make a picture inside the eye model, in the second part, we tried to make the picture of the red upside down arrow inside the eye model. Then, we measure the distances from the eye model to the board, from the eye model to the box it was sitting on and the distance to the lens, and we used all those measurements to get our calculations. We also did the experiment without using water in the eye model.

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- > To find the distance from lens to retina we measured with a ruler in cm and we got 13 cm.
- > To find the distance from the object ( $s_o$ ) to the lens we used a yard stick to measure in centimeters. We came up with a length of 494.5 cm.
- > To find the distance from



$S_o$  - distance from object to lens

$S_i$  - distance from lens to image

$H_o$  - height of object

$H_i$  - height of image

$S_o$  is in proportion with  $S_i$  as  $H_o$  is in proportion with  $H_i$ . In other words,  $S_o \cdot H_o$  should ideally be equal to  $S_i \cdot H_i$ . However, in our experience with this optics lab, our two triangles were not exactly in proportion. We had about a 5% error. Our error could have easily been resolved by measuring in a smaller unit than centimeters to get a more accurate result.

HTW Tu Oct. 2

Yesterday, my classmates and I had a hands on lab. For the lab we needed lens, an object projected on the screen, a ruler and yard sticks to measure the distance of everything. What was being shown on the screen somehow reflect back on the object inside the bowl.

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In the experiment where we found the relationship of objects being in focus. To start we measured an object on the screen by its height ( $h_i$ ) & its distance to the lens ( $s_i$ ). Then we measured the distance from the lens to where the object's image was projected ( $s_o$ ) and measured the height ( $h_o$ ) of it. We found out that the object's height ( $h_o$ ) over the distance to the lens ( $s_o$ ) is proportional to the image height ( $h_i$ ) over the distance to the lens ( $s_i$ ).

PD