

NP

## Laboratory 14

### Introduction:

In this laboratory, our professor mentioned to us that there are people who still did not know how to use the machine for cutting the glass. He mentioned that all they did was run the machine back and forth many times when they are cutting the glass. With this, the edges of the glasses made were not very smooth and straight. Another thing he did mentioned was that when he was about to make more pieces of glass, he couldn't find the machine so he thought that maybe someone took the machine. Most importantly, this laboratory was the most challenging lab without our instructor guiding us. Honestly, this laboratory seems to be our last but this laboratory really hard without not knowing anything and plus without our instructor's guidance maybe this might be the worse report ever made but I would try my best in explaining the idea anyway.

### Equipment:

- Pieces of glass
- Penny
- Ruler

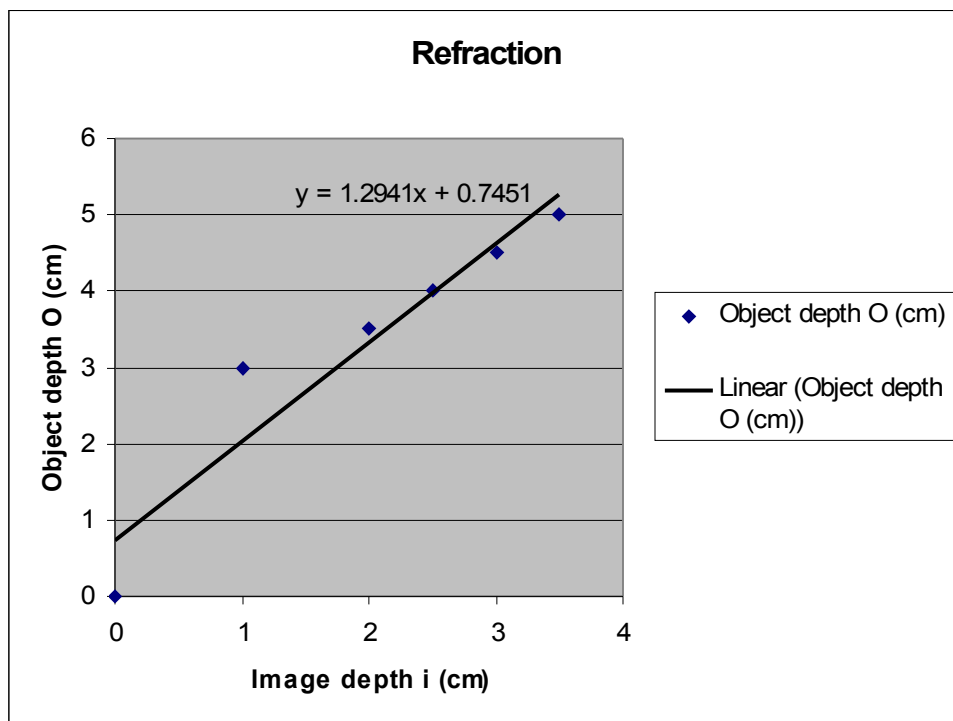
### Procedure:

1. Put a penny on the table
2. Place a piece of glass over the penny
3. Measure out the objects depth
4. Look at the penny and place the ruler where you see the penny is at (refraction)
5. Measure from where you think the penny is at (refraction) or in other words measure the images depth.
6. Repeat step 1-5 until you use or complete with 10 piece of glass

Data:

Pieces of glasses	Image depth I (cm)	Object depth O (cm)
0	0	0
6	1	3
7	2	3.5
8	2.5	4
9	3	4.5
10	3.5	5

Graph:



Analysis:

1. The graph above showed a linear regression
2. The graph showed a slope at 1.2941
3. The y-intercept was 0.7451
4. A mathematical relationship does exist between object and image depth
5. All the data collected are plotted closely along a straight line

## Conclusion:

In this laboratory, my partner and I came up with an idea that if we were to put a penny under the glass, we will see light bend (refraction). With this idea of ours, we found out that if we were to have zero on everything then the result would be zero as well. But if we were to have 6 pieces of glass, the image depth would be at 1 cm (note: cm long) and 3 cm for object depth. If we were to have 7 pieces of glass, then the image depth would be at 2 cm and 3.5 cm object depth. Also, with 8 pieces of glass, the image depth would be at 2.5 cm and for object depth 4 cm. The same goes with 9 pieces of glass with an image depth of 3 cm and 4.5 cm object depth. Another thing was that if we were to have 10 pieces of glass, the image depth would be at 3.5 cm and at an object depth of about 5 cm. One thing I did not mention was that with all these results, they all made up a linear regression with a slope of 1.2941 and with a y-intercept of 0.7451.