**Refraction Lab**

**Names:**

**Date:**

**Objective:** To determine index of refraction for different materials

**Materials:** Paper, ruler, protractor, refracting mediums

**-Return all materials when finished.**

**Procedure:**

1. On the paper draw a horizontal line on the page to represent the line between the two mediums (air and the piece you are using)
2. Draw a normal line
3. Draw a line to represent the incident ray of light.
4. Place the glass piece so that it is touching the horizontal line but below it
5. Looking through the glass from near table level mark on the page where you think the line would come out of the glass at.
6. Connect the mark back to the horizontal line where the incident ray meets it.
7. Determine the angles and calculate the index of refraction.
8. Fill the values in the table including the type of glass. You may need to do some research to determine the material.
9. Repeat for the process above with a 2 more angles of incidence, on separate diagrams
10. Repeat steps 1-9 for four different pieces available.
11. Include your ray diagrams and a sketch of each piece of glass

**Results**

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**Discussion**

1. Could you determine the critical angle in any of the pieces above? If so, how would you do it? If not, explain why.

2. Do you think testing at 3 angles is sufficient to determining the index of refraction? Support your answer.