Lab 1:

1) Deduce the laws of reflection.

2) Finding the position of the image in a plane mirror.



1. Take the sheet given to you, fix it with thumb pins on the wooden board. Draw a line at the centre of the paper. Mark it as AB.
2. Choose a point at the centre of the line AB and draw a normal at that point. Draw another line to make a suitable angle with the normal.[ see the figure above]
3. Using a protractor, measure the angle between the normal line and the incident ray line on ray diagram worksheet, this is the incident angle. Record its name and value on the diagram.
4. Place the ray diagram on the pin board and place 2 pins along the incident ray.
5. Attach a support to the plane mirror and place it in position on the diagram.



Position yourself so that you are looking at the mirror and can see the reflected image of the pins. Now place 2 pins, in line with this image, between your eye and the mirror. These pins describe the position of the reflected ray.

1. Remove the pins and the diagram from the pin board.



1. Now draw a line connecting the holes left by the

reflection ray pins. This is the reflected ray. Label it

with its name.

1. Use the protractor to measure the angle between

the reflected ray line and the normal line;

this is the angle of reflection. Label this angle with its name.

1. Without removing the first pin, draw another incident ray from the same point and repeat steps 4,5,6,7 and 8 to get the second refracted ray.
2. Enter the values of angles of incidence, angles of reflection in the sheet.

What is the relation between them?

1. Produce the reflected rays behind the mirrors till they meet at one point. This is the position of the image of the first pin.
2. Measure object and image distance. How are they related?
3. Write your conclusion from the experiment.