LAB 5: REFLECTION OF LIGHT

AIM: To investigate the relationship between the angle of incidence and the angle of reflection.

APPARATUS & MATERIALS:

plane mirror paper

optical pins tape

wooden board protractor

ruler

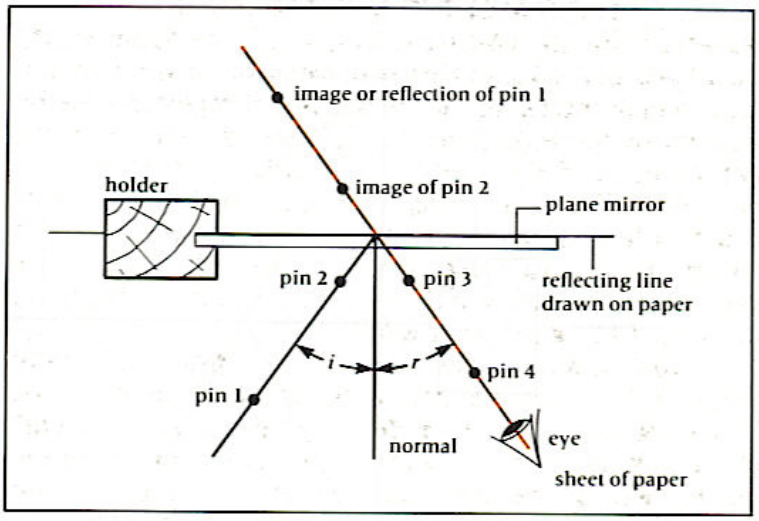

Diagram: Apparatus for the reflection of light

METHOD:

- Fasten a sheet of paper to a drawing board or flat surface into which pins can be pressed easily.
- Mark the reflecting line on the paper.
- Draw a normal at right angles to this line.
- Draw an incident ray at 30° to the normal, (***i* = 30°**)
- Press ***pin1*** and ***pin2*** into the paper at the positions shown in the figure above.
- Stand the mirror upright with its reflecting surface on the reflecting line.
- With your eye at bench level, look into the mirror and find a position where the image of ***pin2*** covers ***pin1***. Now press in first ***pin3*** and ***pin4*** so that they in turn cover the images of ***pin1*** and

pin2. ***Pin3*** and ***pin4*** will be in line with the images of ***pin1*** and ***pin2***. ***Pin3*** and ***pin4*** mark the position of the reflected ray.

- Remove all pins and draw the line through ***pin3*** and ***pin4***.
- Measure the angle of reflection, ***r***.
- Repeat the experiment for the other angles of incidences, **0°, 15°, 45°, 60° and 75°**

THEORY:

- State the laws of reflection.

OBSERVATIONS / RESULTS:

- Fasten trace into SBA book. (a fully labelled diagram)
- Record all results in table below (showing all headings and units)

Angle of incidence, *i*	**Angle of reflection, *r***

CONCLUSION:

- Can you draw any conclusion about the angles of incidence, angles of reflection and normal from your measurement?
- Why are the pins placed as far apart as possible?
- List any precautions or sources of errors.