Name: _____ Date: _____

LAB 2: Converging & Diverging Mirrors Lab

Purpose:

To investigate the **Law of Reflection** using a **converging mirror** and **diverging mirror**.

Materials:

Ray box Converging Mirror Diverging Mirror Ruler Sharp Pencil

PART A: Investigating Converging Mirror

Procedures:

1. Place the **ray box** as indicated below.
2. Place the ***more curved*** **converging mirror** in front of the ray box *(not too far away)*.
3. Trace the converging mirror (same side where the rays hit).
4. Shine **3 parallel incident rays** into the centre of the concave surface. The middle incident ray is on the principal axis. **Draw all the incident rays and reflected rays.**
5. The **reflected rays meet at one point**. This is the **focal point** of the converging mirror.
6. Choose 1 light ray and draw the **normal** (with dotted line ----).
7. Measure and record the **angle of incidence (i)** and **angle of reflection (r)**
8. Measure and record the **focal length (f)**.

Angle of incidence = _____ Focal length = _____

Angle of reflection = _____

PART B: Investigating Diverging Mirror

Procedures:

Procedures:

1. Place the **ray box** as indicated below.
2. Place the ***more curved*** **diverging mirror** in front of the ray box *(not too far away)*.
3. Trace the diverging mirror (same side where the rays hit).
4. Shine **3 parallel incident rays** into the centre of the concave surface. The middle incident ray is on the principal axis. **Draw all the incident rays and reflected rays.**
5. The **reflected rays do not meet at one point**. Extend the reflected behind the mirror with dotted line ---- until they meet at one point. This is the **virtual focal point** of the diverging mirror.
6. Choose 1 light ray and draw the **normal** (with dotted line ----).
7. Measure and record the **angle of incidence (i)** and **angle of reflection (r)**
8. Measure and record the **focal length (f)**.

Angle of incidence = _____ Focal length = _____

Angle of reflection = _____

Discussion Questions:

1. Did the reflected rays converge or diverge when light was shone at the converging mirror?

2. Did the reflected rays converge or diverge when light was shone at the converging mirror?