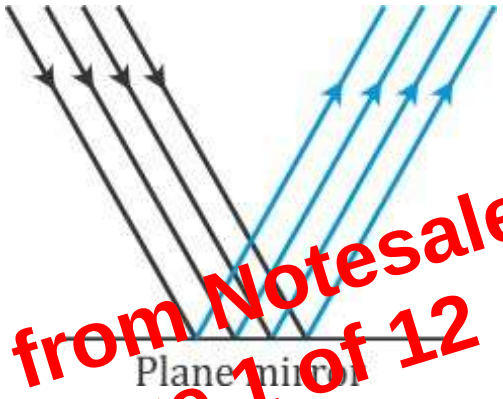
Reflection of Light

- The return of light into the same medium after striking a surface is called **reflection**.
- We see the objects around us due to reflection.
- A plane mirror reflects almost all the light falling on it.

Kinds of Reflection

Regular Reflection

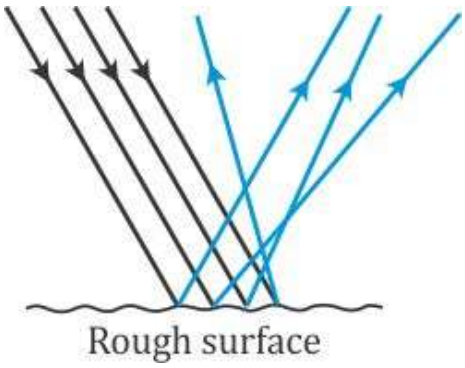
- When a beam of light falls on a smooth and polished surface (a plane mirror), regular reflection occurs.



- The incident rays and reflected rays are parallel beams.

Irregular Reflection

- When a beam of light falls on a rough surface (a wall or a road), irregular reflection occurs.



- The incident rays are parallel beams, but the light reflected from different surfaces will reflect at different angles obeying the laws of reflection.

Terms Related to Reflection

- **Incident ray:** The light ray striking a reflecting surface is called the incident ray.
- **Point of incidence:** The point at which the incident ray strikes the reflecting surface is called the point of incidence.

Mirror Formula

- The object distance, image distance and focal length are related as

$$\frac{1}{u}+\frac{1}{v}=\frac{1}{f}$$

- Magnification is the ratio of the height of the image to the height of the object. It is represented as m.

$$m=\frac{\text{Height of image (h')}}{\text{Height of object (h)}}$$

$$=\frac{h'}{h}$$

- Magnification is also related to the object distance and the image distance as

$$m=\frac{h'}{h}=-\frac{v}{u}$$