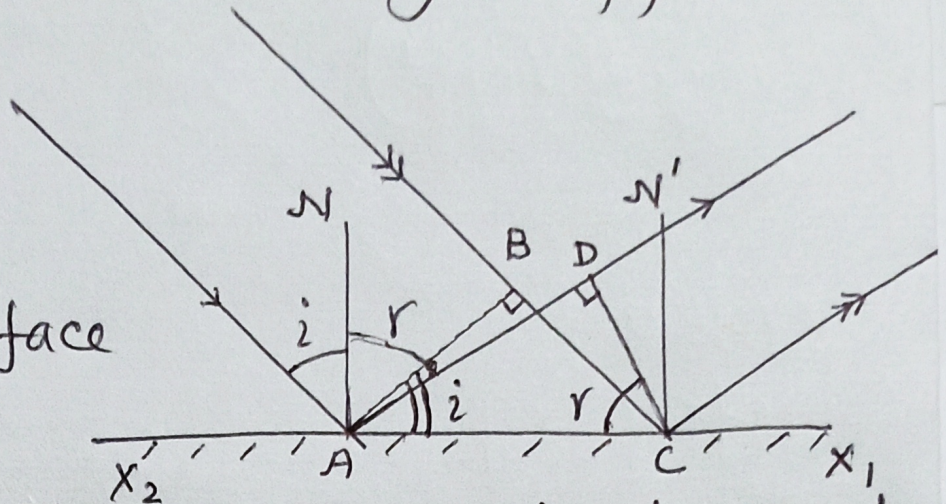


# Laws of Reflection of Light (As per wave Theory): $\rightarrow$

$X_1, X_2$  is Plane reflecting surface on which a

parallel beam of Light with wavefront  $AB$  gets incident. One end of the incident wavefront gets incident at  $A$  and reflected wavelets arrive at  $D$  the other end  $B$  arrives at  $C$ .



In  $\triangle ABC$ ,  $\angle BAC = \angle i$

$\triangle ADC$   $\angle DCA = 90 - (90 - r) = r$

$$\sin i = \frac{BC}{AC} \quad \sin r = \frac{AD}{AC} \quad \text{Since}$$

$$BC = AD = v_{\text{light}} \Delta t$$

$$\text{therefore } \sin i = \sin r, \quad \angle i = \angle r$$

The angle of incidence & angle of reflection are equal & incident ray, reflected ray and Normal are in same plane.