

## Important points about nodal point

- 1.) The distance between two nodal points is always equal to the distance between two principal points

$$P_1 P_2 = N_1 N_2$$

From:  $\triangle TP_1 N_1$  and  $\triangle BP_2 N_2$

$$\theta_1 = \theta_2 \text{ (Nodal points)}$$

$$\angle TP_1 N_1 = \angle BP_2 N_2 = 90^\circ$$

$$TP_1 = BP_2$$

Hence both  $\triangle$  are congruent

$$P_1 N_1 = P_2 N_2$$

$$P_1 N_1 + N_1 P_2 = P_2 N_2 + N_1 P_2$$

$$P_1 P_2 = N_1 N_2$$

- 2.) The nodal points  $N_1$  and  $N_2$  coincide with the principal points  $P_1$  and  $P_2$  respectively whenever the refractive index of either sides of the lens system is same