\[ t \begin{array}{cccc} \text{t} & \text{I}_1 & \text{P}_1 & \text{N}_1 & \text{I}_1 = \text{P}_1 \cdot \text{N}_1 \\ 1 & \text{I}_2 & \text{P}_2 & \text{N}_2 & \text{I}_2 = \text{P}_2 \cdot \text{N}_2 \\ 2 & \end{array} \]

\[ AC = \frac{\text{P}_1 \text{N}_1 + \text{P}_2 \text{N}_2}{\text{N}_1 + \text{N}_2}, \quad I_1 = I_2 \]

\[ AP = \frac{\text{P}_1 + \text{P}_2}{2} \]

\[ AP - AC = \frac{\text{P}_1 + \text{P}_2}{2} - \frac{\text{P}_1 \text{N}_1 + \text{P}_2 \text{N}_2}{\text{N}_1 + \text{N}_2} = \]

\[ = \frac{(\text{P}_1 + \text{P}_2)(\text{N}_1 + \text{N}_2)}{2(\text{N}_1 + \text{N}_2)} - \frac{\text{P}_1 \text{N}_1 + \text{P}_2 \text{N}_2}{\text{N}_1 + \text{N}_2} = \]

\[ = \frac{\text{N}_1}{2 \text{P}_2} \left( \frac{\text{P}_1 - \text{P}_2}{\text{N}_1 + \text{N}_2} \right)^2 \]

\[ > 0 \]

Hence \( AP > AC \) as long as \( P_1 \neq P_2 \)}