

$$\begin{array}{c} A \\ B \\ C \end{array} \begin{array}{c} \text{orange arc } A \rightarrow B \\ \text{blue arc } B \rightarrow C \end{array} = \begin{array}{c} A \\ B \\ C \end{array} \begin{array}{c} \text{blue arc } C \rightarrow A \\ \text{orange arc } B \rightarrow C \end{array} \geq \begin{array}{c} A \\ B \\ C \end{array} \begin{array}{c} \text{orange arc } A \rightarrow B \\ \text{blue arc } A \rightarrow C \end{array}$$

$$\longrightarrow S_{A+B} + S_{B+C} \geq S_{A+B+C} + S_B$$

$$\begin{array}{c} A \\ B \\ C \end{array} \begin{array}{c} \text{orange arc } A \rightarrow B \\ \text{blue arc } B \rightarrow C \end{array} = \begin{array}{c} A \\ B \\ C \end{array} \begin{array}{c} \text{orange arc } A \rightarrow C \\ \text{blue arc } C \rightarrow B \end{array} \geq \begin{array}{c} A \\ B \\ C \end{array} \begin{array}{c} \text{orange arc } A \rightarrow B \\ \text{blue arc } C \rightarrow B \end{array}$$

$$\longrightarrow S_{A+B} + S_{B+C} \geq S_A + S_C$$