**Proposition 3.3 (Second Result).** Given $A * B * C$ and $A * C * D$. Then $A * B * D$.

*Proof.* We have A, B, C, and D as four distinct, collinear points. By Proposition 2.3, there exists some point E which does not lie on the line through A, B, C, and D. Consider the line $\overleftrightarrow{EB}$. Since $\overleftrightarrow{EB}$ intersects AC at point B and $A * B * C$, then A and C are on opposite sides of $\overleftrightarrow{EB}$.

We wish to show that C and D are on the same size of $\overleftrightarrow{EB}$. Suppose by RAA hypothesis that C and D were on opposite sides of $\overleftrightarrow{EB}$. Then there must be a point on segment CD at which $\overleftrightarrow{EB}$ intersects CD. By Proposition 2.1, this point must be B, so $C * B * D$. But by the first result of Proposition 3.3 (as proved by Greenberg), $B * C * D$, a contradiction (as per B-3). Thus, C and D must be on the same side of $\overleftrightarrow{EB}$. Since plane separation is an equivalence relation and $A * B * C$ by hypothesis, $A * B * D$. □