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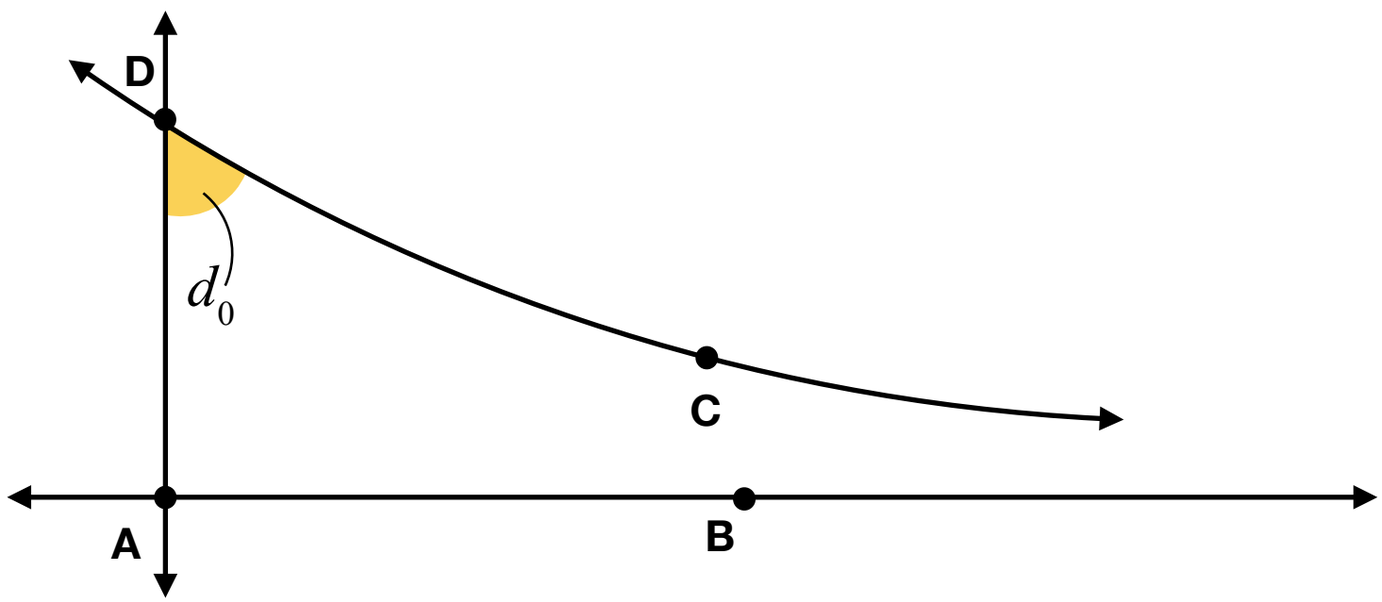

Proof. Suppose to the contrary that $\overleftrightarrow{AB} \nparallel \overleftrightarrow{CD}$. Without the loss of generality, we may assume that $B \in \overleftrightarrow{AB} \cap \overleftrightarrow{CD}$. Let E be a point given by Extension that $A - B - E$. Since $A - B - E$, we know that $\angle ADC = \angle ADB < \angle ADE$. Then $d_0 = m\angle ADC < m\angle ADE$ but $\overleftrightarrow{DE} \nparallel \overleftrightarrow{AB}$, which is a contradiction to d_0 being the least upper bound. □

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