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Theorem 17. Assume rays \overrightarrow{AC} and \overrightarrow{AD} lie on different sides of the line \overleftrightarrow{AB} , then these rays parts of the same line if and only if $\angle 1 = \angle 3$.

Proof: from the Protractor Theorem we know that these rays part of the same line if and only if $\angle 2 + \angle 3 = 180^\circ$
 But $\angle 2 = 180^\circ - \angle 1$, hence $\angle 2 + \angle 3 = 180^\circ - \angle 1 + \angle 3$
 and it is equal to 180° if and only if $-\angle 1 + \angle 3 = 0^\circ$