**Theorem 1** $0 = 1$.

Proof: Construct quadrilateral $\square ABCD$ as follows:

- $\angle ABC$ is a right angle;
- $\angle BCD$ is slightly obtuse—measuring, say, $100°$;
- $\overline{AB} \cong \overline{CD}$.

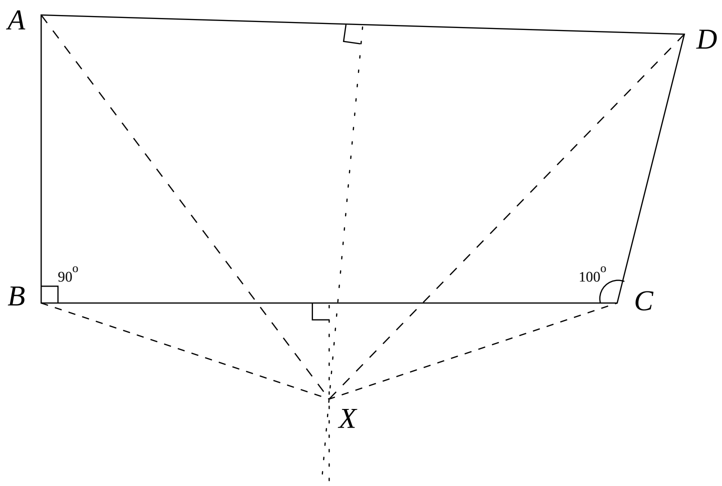


Figure 1: $\square ABCD$. (The argument is unchanged if $X$ is inside $\square ABCD$.)

Construct the perpendicular bisectors of $\overline{BC}$ and $\overline{AD}$. Since $\overline{AD}$ and $\overline{BC}$ aren't on parallel lines, their perpendicular bisectors aren't parallel, and thus meet at a point $X$.

We now show that $\triangle ABX \cong \triangle DCX$, which will in turn give us the right angle $\angle ABC$ congruent to the obtuse angle $\angle DCB$:

- $\overline{AB} \cong \overline{DC}$, by construction.
- $\overline{BX} \cong \overline{CX}$, since $X$ is on the perpendicular bisector of $\overline{BC}$.
- $\overline{AX} \cong \overline{DX}$, since $X$ is on the perpendicular bisector of $\overline{AD}$.

Thus $\triangle ABX \cong \triangle DCX$ (since they have three congruent sides). We also know that $\angle CBX \cong \angle BCX$ (since they are the base angles of the isosceles $\triangle BCX$), so $\angle ABC \cong \angle DCB$.

Thus right angle $\angle ABC$ is congruent to obtuse angle $\angle DCB$, so $90° = 100°$; it follows immediately that $0 = 1$ as claimed. $\square$