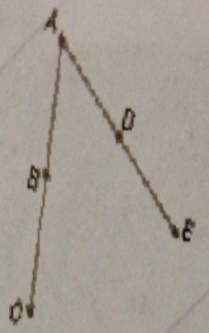
Proof 1

Example 4

Given: $\overline{AB} \cong \overline{BC}$, $\overline{AD} \cong \overline{DE}$, $\overline{BC} \cong \overline{AD}$

Prove: $\overline{DE} \cong \overline{AB}$



Statements	Reasons
1. $\overline{AB} \cong \overline{BC}$, $\overline{BC} \cong \overline{AD}$	1.
2. $\overline{AB} \cong \overline{AD}$	2.
3. $\overline{AD} \cong \overline{DE}$	3.
4. $\overline{AB} \cong \overline{DE}$	4.
5. $\overline{DE} \cong \overline{AB}$	5.

Proof 2

Example 6

Given: $\angle 1$ and $\angle 4$ form a linear pair

$m\angle 3 + m\angle 1 = 180°$.

Prove: $\angle 3$ and $\angle 4$ are congruent.

Statements	Reasons
1.	1. Given
2. $m\angle 3 + m\angle 1 = 180°$	2.
3. $\angle 1$ and $\angle 4$ are supplementary	3.
4.	4. Definition of supplementary angles
5. $\angle 3 \cong \angle 4$	5.

Example 7