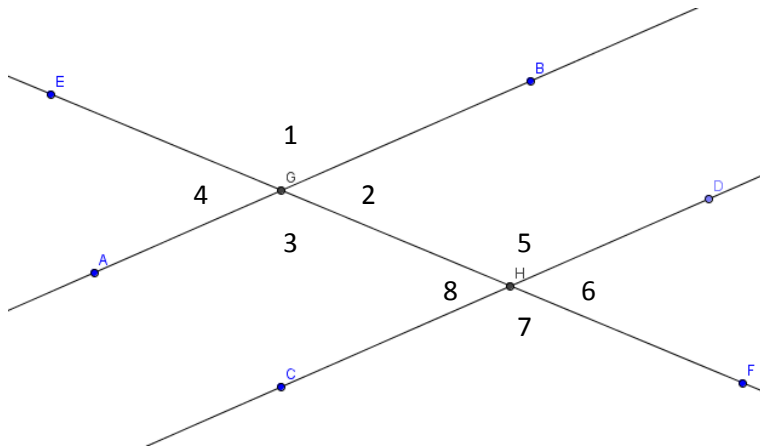


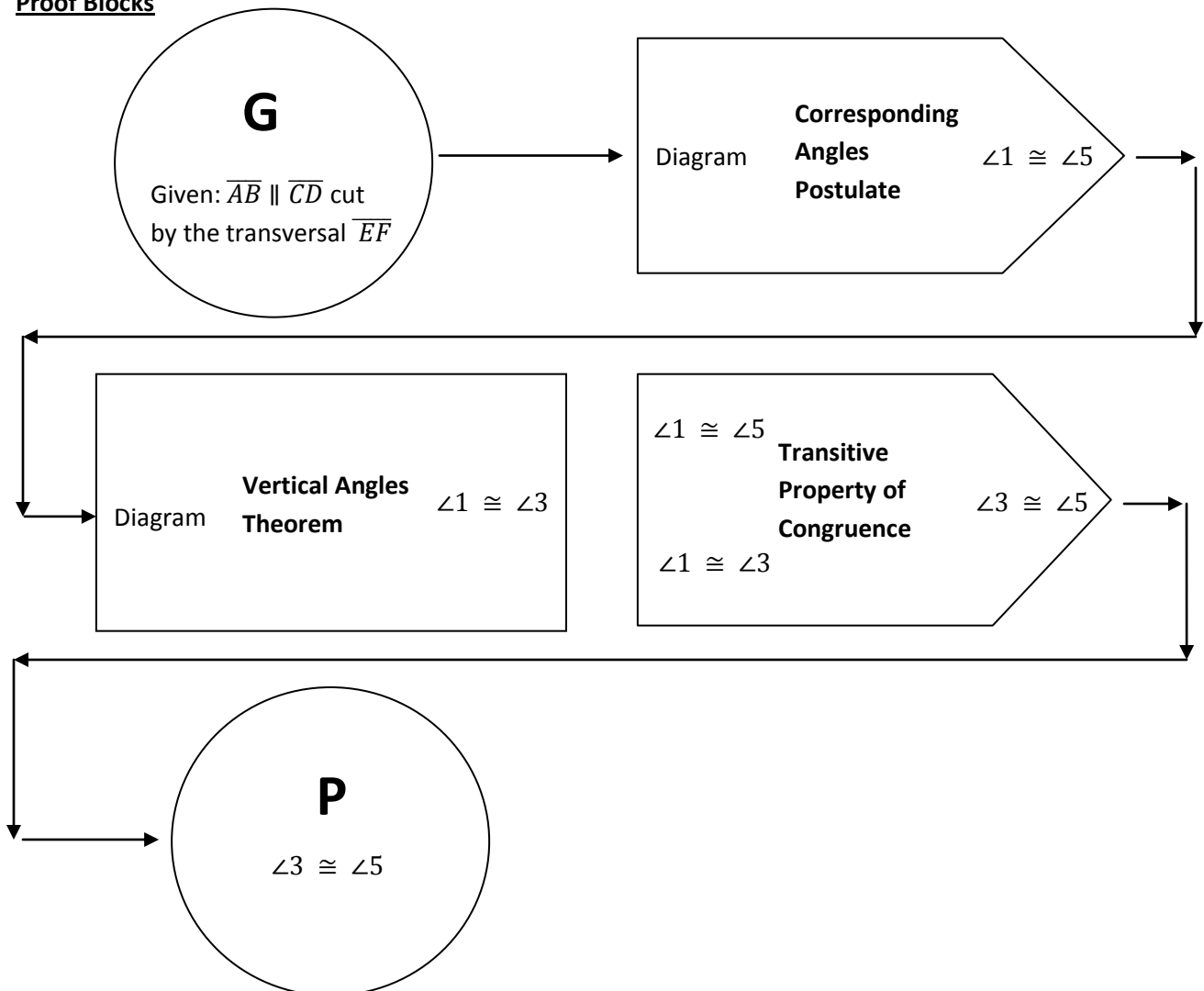
Example of proof methods using alternate interior angles



Given: $\overline{AB} \parallel \overline{CD}$

Prove: Alternate Interior Angles are Congruent ($\angle 2 \cong \angle 8$ or $\angle 3 \cong \angle 5$)

Proof Blocks



Paragraph Proof

Since the lines \overline{AB} , \overline{CD} are parallel and cut by the transversal \overline{EF} , $\angle 1 \cong \angle 5$ because corresponding angles are congruent with parallel lines. $\angle 1 \cong \angle 3$ because they are vertical angles and all vertical angles are congruent. Therefore using the transitive property of congruence $\angle 1 \cong \angle 3$. You can prove that $\angle 2 \cong \angle 8$ using the same method.

Two Column Proof

Given: $\overline{AB} \parallel \overline{CD}$ cut by the transversal \overline{EF}

Prove: $\angle 3 \cong \angle 5$

Statements	Reasons
$\overline{AB} \parallel \overline{CD}$ cut by the transversal \overline{EF}	Given
$\angle 1 \cong \angle 5$	Corresponding angles congruent given parallel lines
$\angle 1 \cong \angle 3$	Vertical angles are congruent
$\angle 3 \cong \angle 5$	Transitive property of congruence