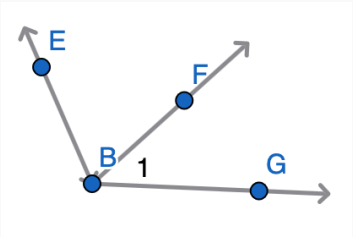
Lesson 1.4 — Student Notes

Angle Relationships and the First Proof

ANGLE NAMING

Naming Angles



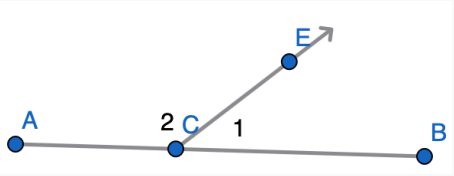
Three-point notation:

Example: $\angle 1 = \angle$

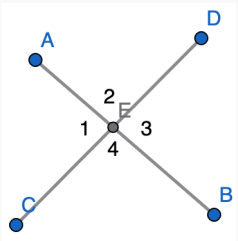
When must we use three-point notation?

ANGLE RELATIONSHIP DEFINITIONS

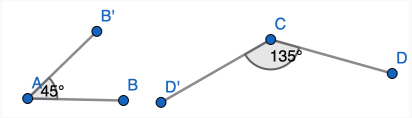
Linear Pair



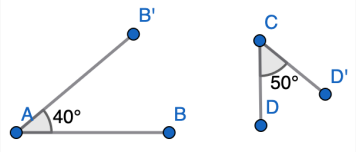
Vertical Angles



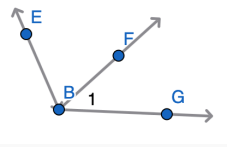
Supplementary Angles



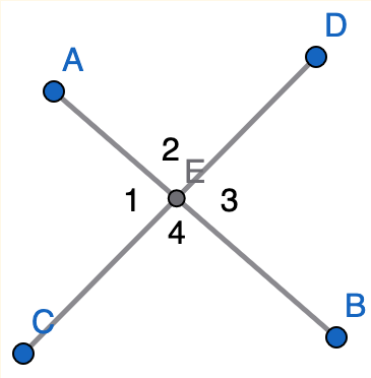
Complementary Angles



Adjacent Angles



Proof: Vertical Angles Are Congruent



Given: two lines intersecting at a point, forming ∠1, ∠2, ∠3, ∠4
Prove: ∠1 ≅ ∠3

Practice — Angle Relationships

1. **Two angles form a linear pair. One angle measures (3x + 12)° and the other measures (5x − 4)°. Find x and both angle measures.**

2. **Two vertical angles measure (4x + 15)° and (7x − 12)°. Find x and the measure of each angle.**

3. **Angle A and angle B are supplementary. If m∠A = 2m∠B, find both angles.**

4. **In the diagram, two lines intersect. One angle measures 47°. Find the measures of the other three angles. State which relationship you used for each.**