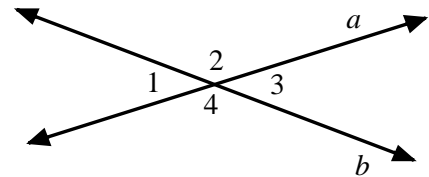


**Common Core Geometry Proof - Lines and Angles\_1**  
**Vertical Angles**

**Theorem:** If two lines intersect, then the vertical angles formed are congruent.

**Given:** Lines  $a$  and  $b$  intersect

**Diagram:**



**Prove:**  $\angle 2 \cong \angle 4$

| Statements | Reasons |
|------------|---------|
|            |         |