

Angles and Parallel Lines Notes

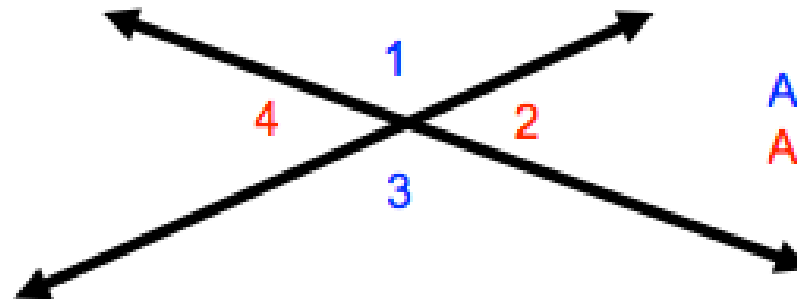
Quick Review

Complementary Angles - a pair of angles whose measures sum to 90° .

Supplementary Angles - a pair of angles whose measures sum to 180° .

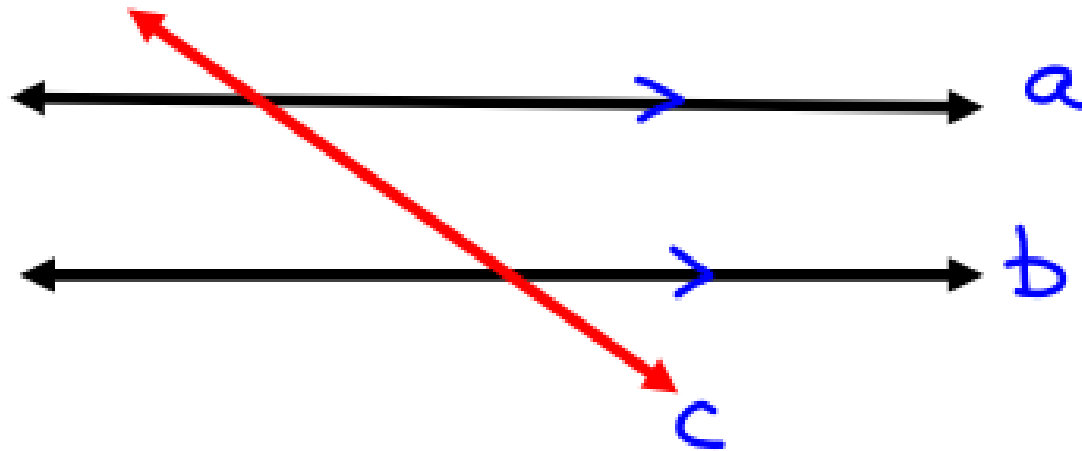
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Vertical Angles - when two lines intersect, they form two pairs of opposite angles called vertical angles. Vertical angles are always congruent.



Angles 1 and 3 are congruent.
Angles 2 and 4 are congruent.

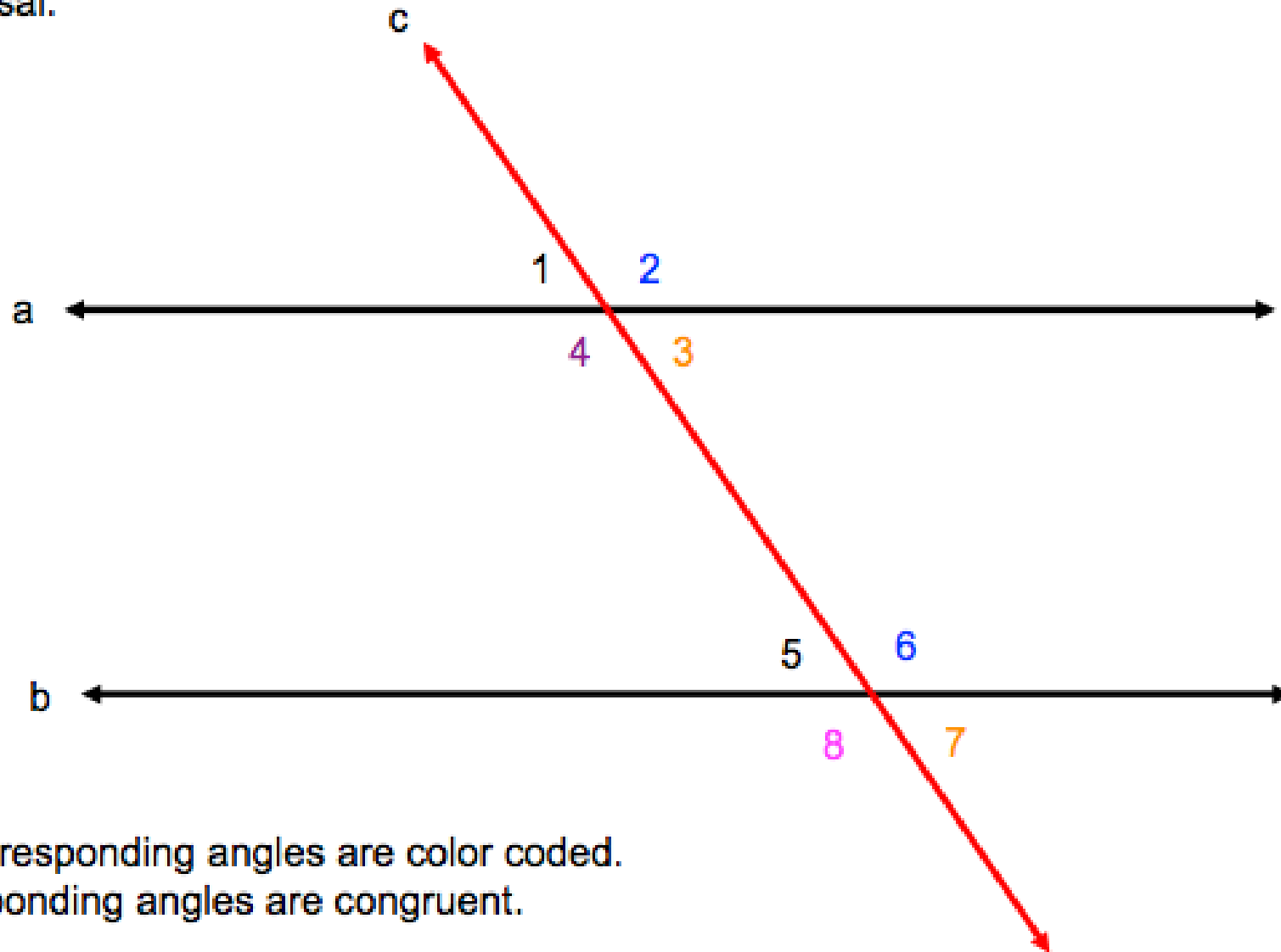
Two lines that never intersect are called parallel lines. A line that intersects a set of parallel lines is called a **transversal**.



When this happens, 8 angles are formed. These angles are grouped into three categories.

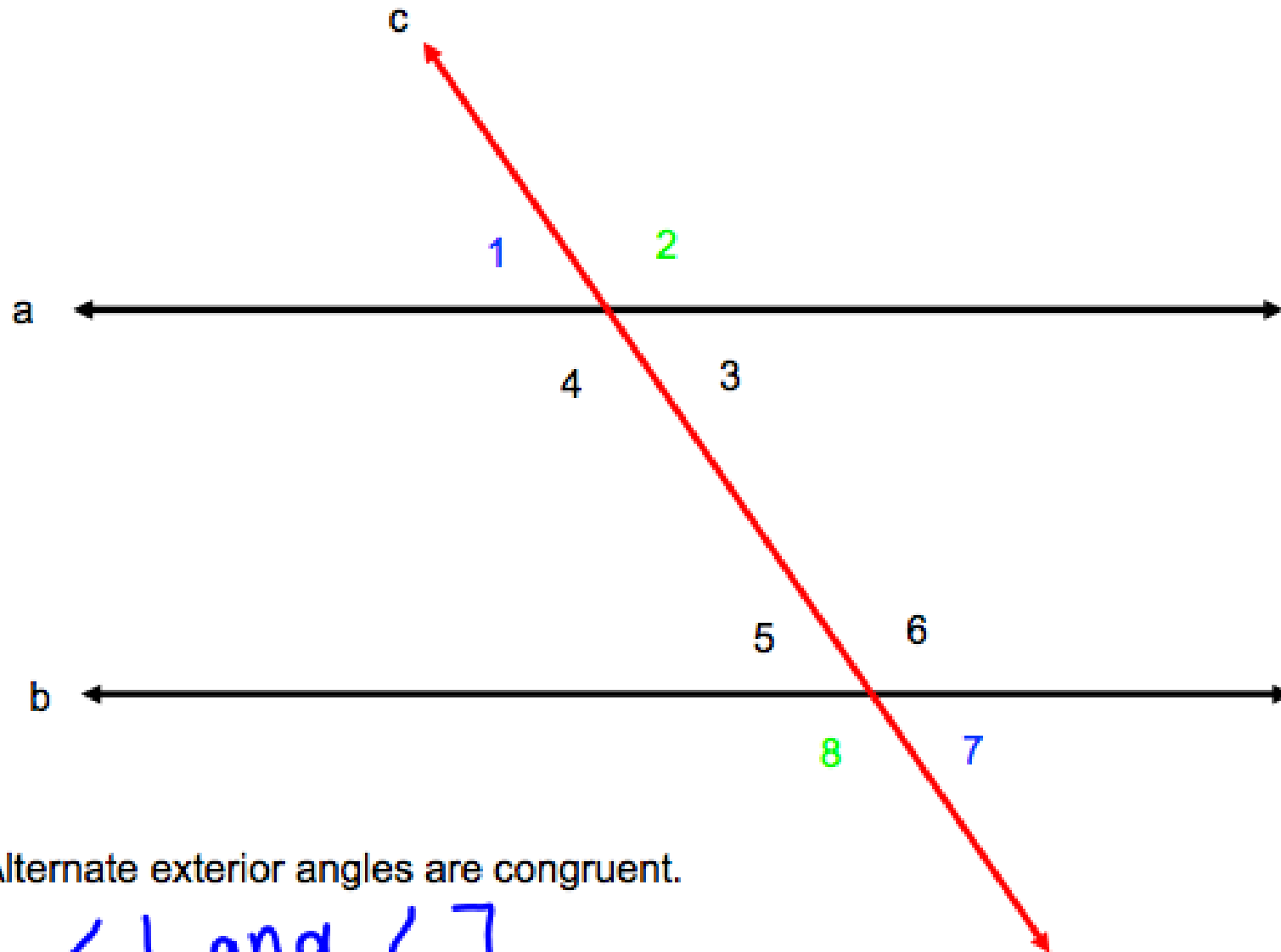
- 1) Corresponding Angles
- 2) Alternate Exterior Angles
- 3) Alternate Interior Angles

Corresponding Angles - are in the same position on the parallel lines in relation to the transversal.



The corresponding angles are color coded.
Corresponding angles are congruent.

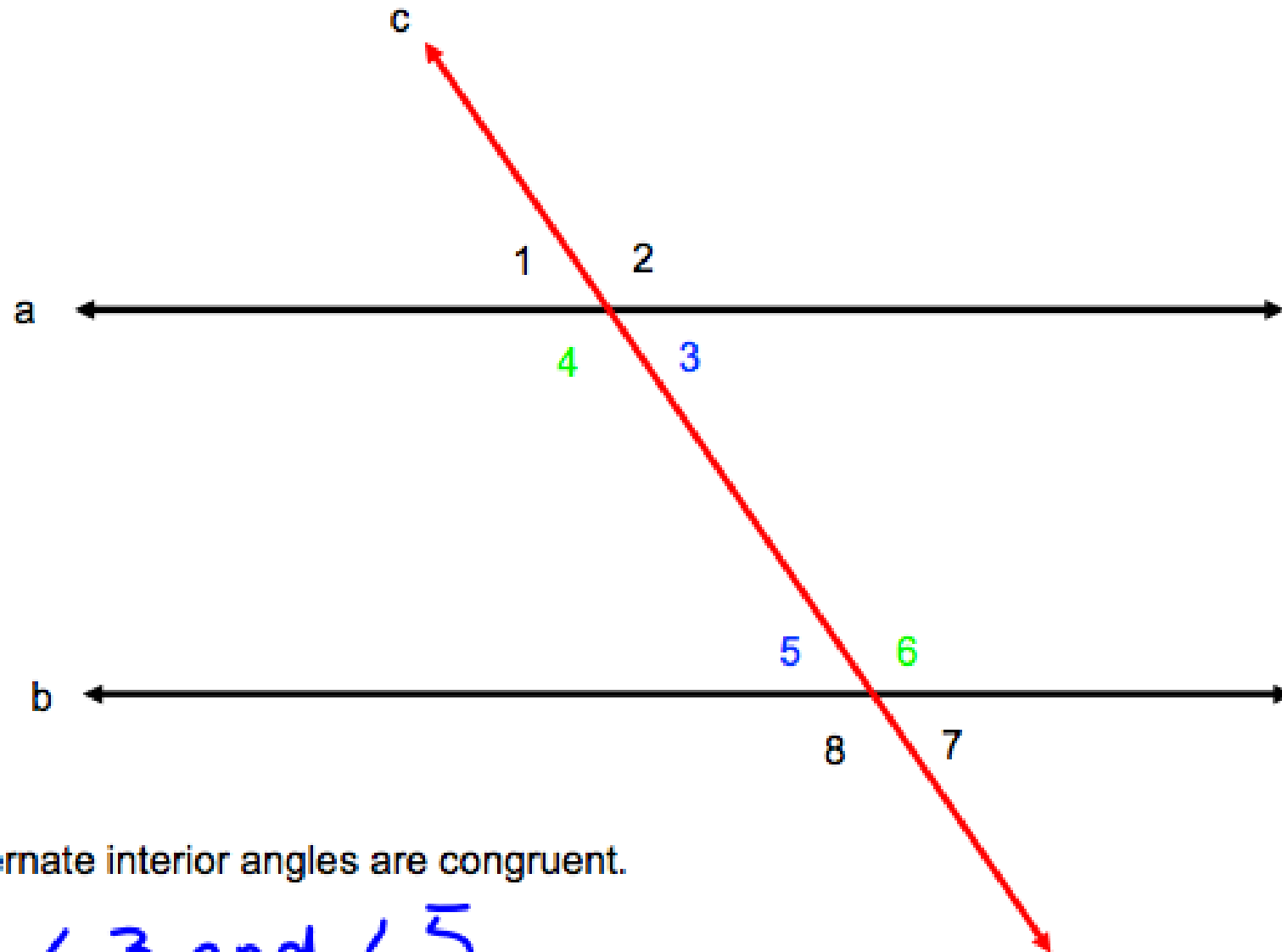
Alternate Exterior Angles - are on opposite sides of the transversal and outside the parallel lines.



Alternate exterior angles are congruent.

$\angle 1$ and $\angle 7$
 $\angle 2$ and $\angle 8$

Alternate Interior Angles - are on opposite sides of the transversal and inside the parallel lines.

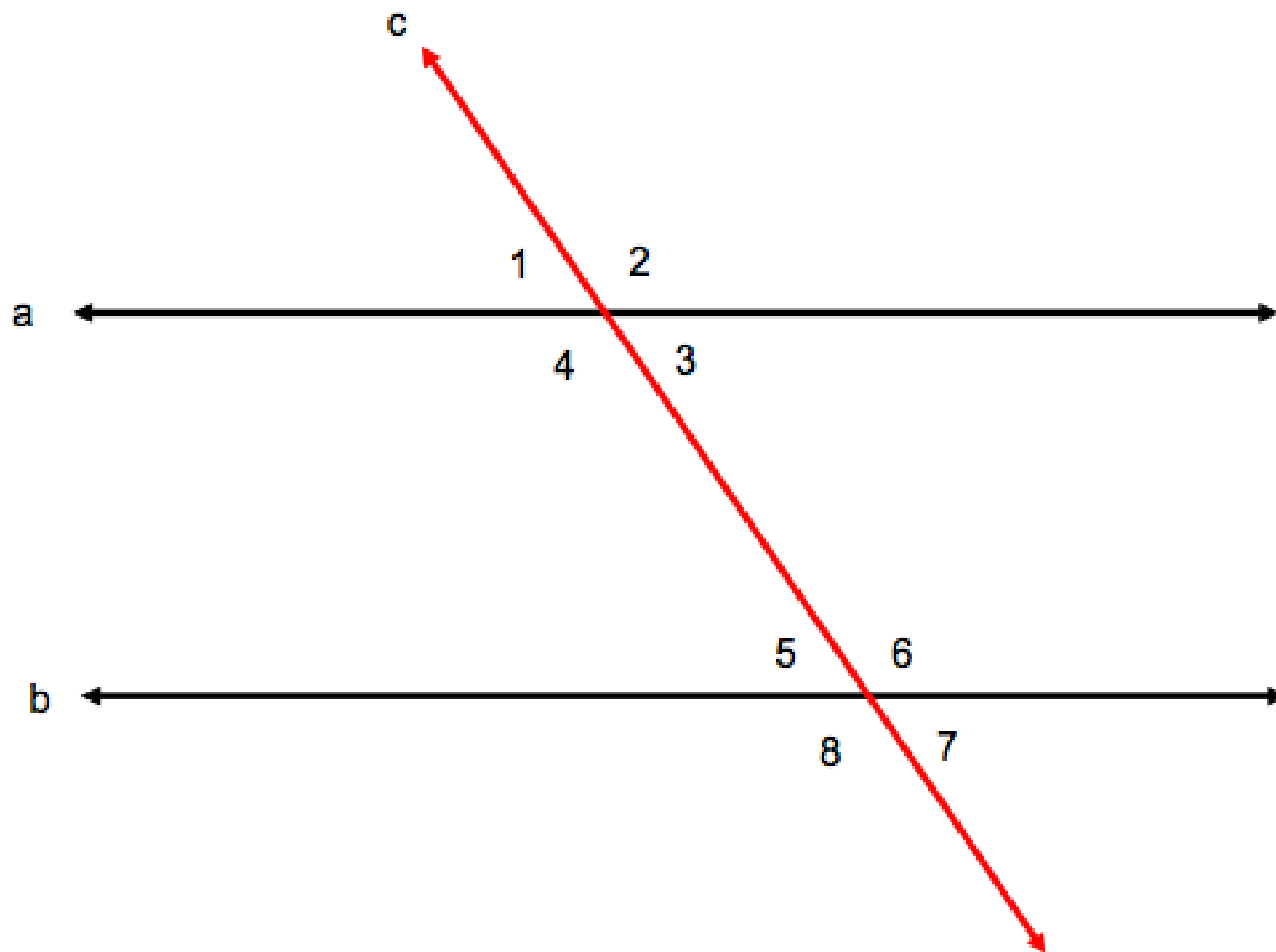


Alternate interior angles are congruent.

$\angle 3$ and $\angle 5$

$\angle 4$ and $\angle 6$

How could I prove lines a and b are parallel?



Must show a set of corresponding, alternate interior, or alternate exterior angles are congruent.