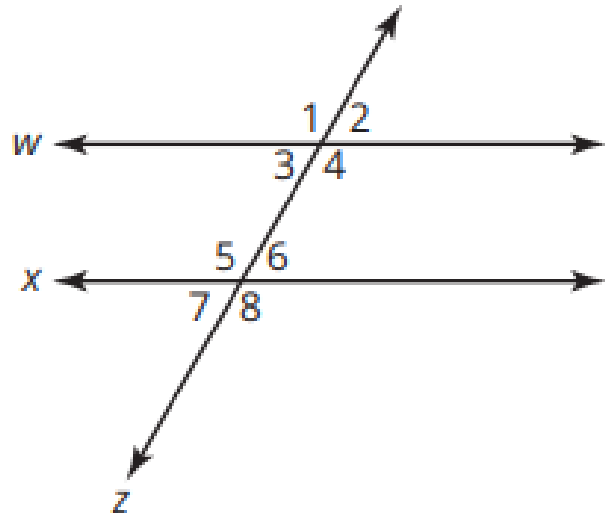Earlier, you proved the Corresponding Angles Converse Theorem. You can use that theorem to prove the converse of other parallel line theorems.

1. Write the converse of the Alternate Interior Angle Theorem.

2. Use the diagram to write the given and prove statements for your converse statement. Then prove that this relationship exists in all cases.

Statements	Reasons

Because your converse statement has been proved to be true, you can now refer to it as a theorem. The **Alternate Interior Angles Converse Theorem** states: "If two lines intersected by a transversal form congruent alternate interior angles, then the lines are parallel."