

Chapter 2: Properties of Angles and Triangles

Section 2.1

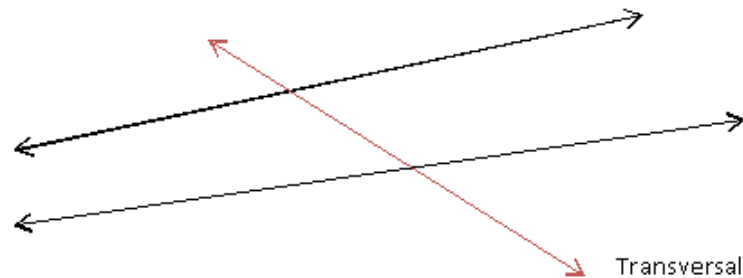
Exploring Parallel Lines

Learning targets:

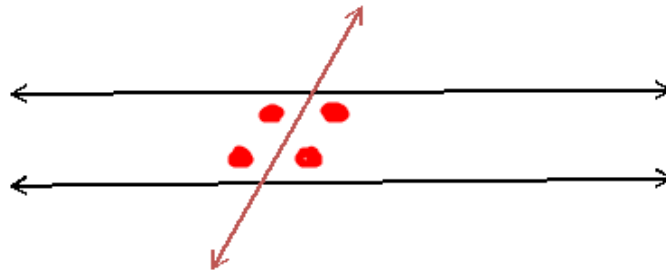
1. Demonstrate understanding of new terminology (transversal, corresponding angles, converse, interior angles, exterior angles).
2. Explore relationships among corresponding angles when a pair of lines is cut by a transversal.

Key Terms:

- (1) Transversal: A line that intersects two or more other lines at distinct points.

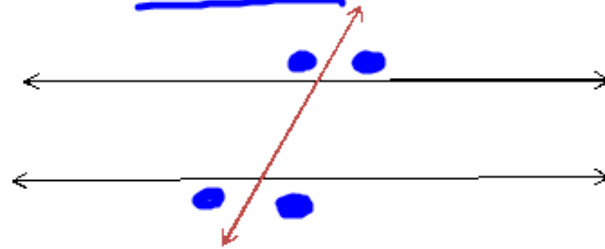


- (2) Interior angles: Any angles formed by a transversal and two parallel lines that lie inside the parallel lines.

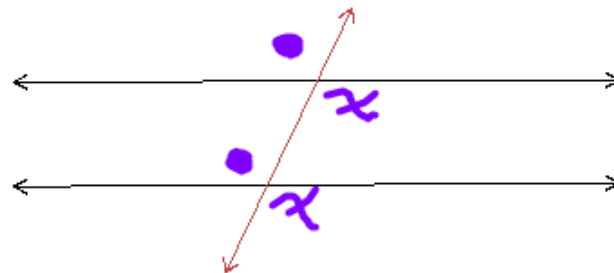


Key Terms (continued):

- (3) Exterior angles: any angles formed by a transversal and two parallel lines that lie outside the parallel lines.



- (4) Corresponding angles: One interior and one exterior angle that are non-adjacent and on the same side of a transversal.



Key Terms (continued)

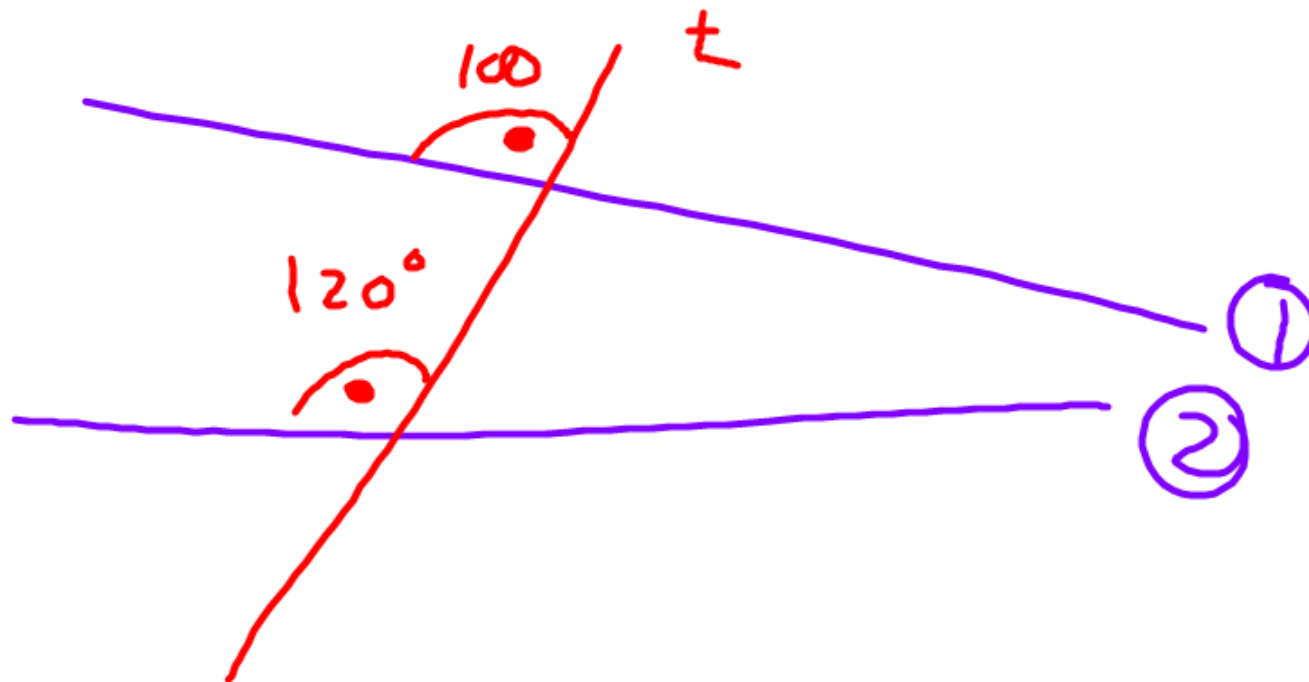
(5) Converse: A statement that is formed by switching the **premise** and the **conclusion** of another statement.

Example: Original statement: "If **I wash the car**, then **it will rain**."
Converse: "If **it rains**, then **I will wash the car**."

Exploration:

You need a protractor and ruler (or other straightedge).

If you need to borrow either one, please ask me.



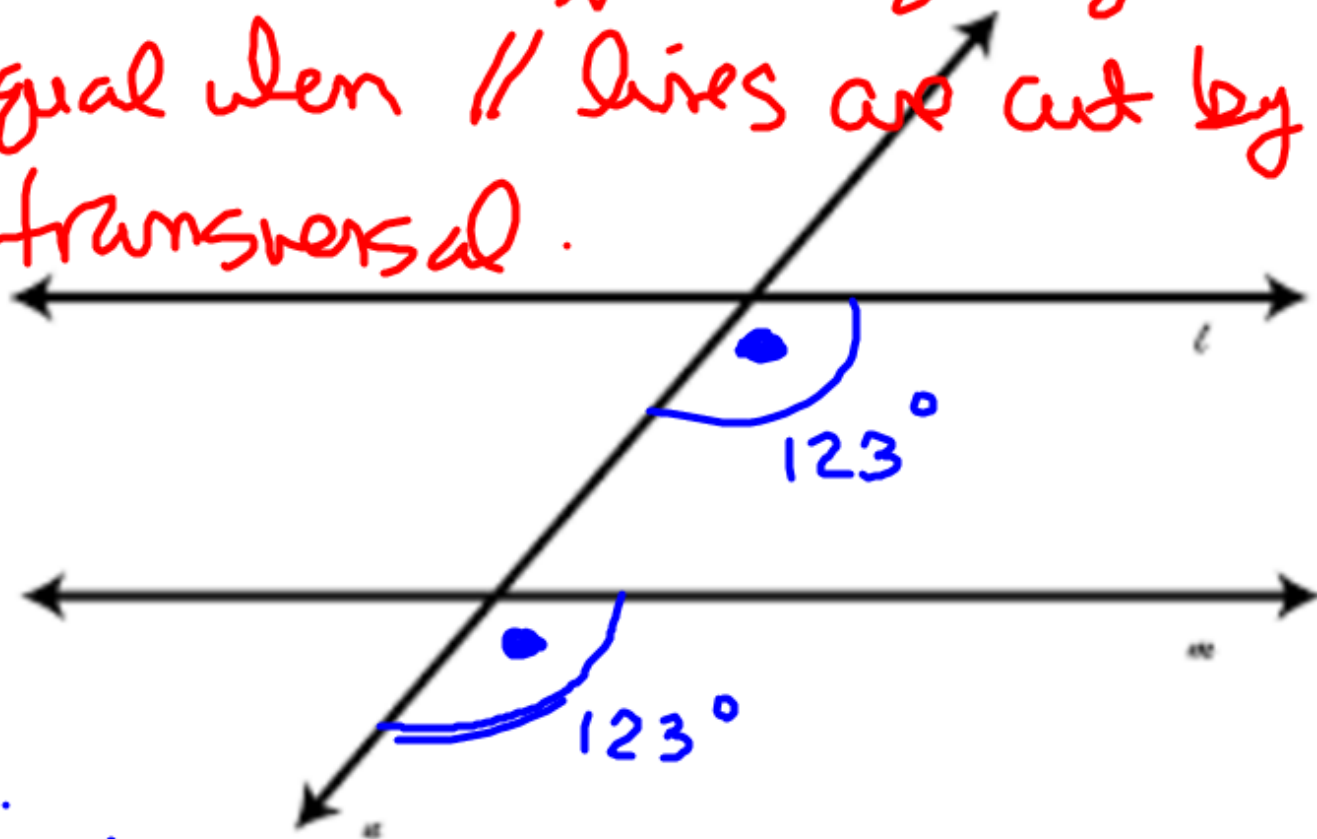
Conjecture:

When two non parallel lines are cut by a transversal, the corresponding angles are NOT EQUAL

Converse:

When corresponding angles are not equal, the two lines cut by a transversal are not parallel.

Converse: Corresponding angles are equal when \parallel lines are cut by a transversal.



Conjecture when \parallel lines are cut by a transversal, corresponding angles are equal.

Exploration:

You need a protractor and ruler (or other straightedge).

If you need to borrow either one, please ask me.

Conjecture: When parallel lines are intersected by a transversal, the corresponding angles are EQUAL.

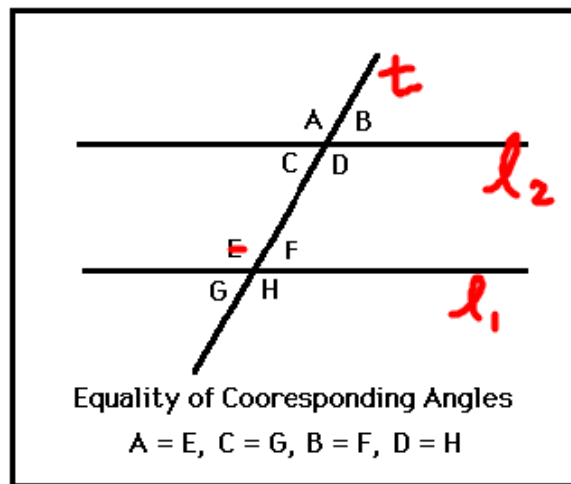
Converse: When corresponding angles are equal, the lines are parallel.

Conjecture: When 2 non-parallel lines are intersected by a transversal, the corresponding angles are NOT EQUAL.

Converse: When corresponding angles are not equal, the lines are not parallel.

Summary:

Statement: When a transversal intersects a pair of parallel lines, the corresponding angles that are formed by each parallel line and the transversal are equal.



Converse: When a transversal intersecting a pair of lines creates equal corresponding angles, the pair of lines is parallel.

ASSIGNMENT:

Text page 72: #2, 5

Handout pages 40-41: #1 – 5