Lesson 12: Angles Associated with Parallel Lines

Classwork

Exploratory Challenge 1

In the figure below, $L_1$ is not parallel to $L_2$, and $m$ is a transversal. Use a protractor to measure angles 1–8. Which, if any, are equal in measure? Explain why. (Use your transparency if needed.)
Exploratory Challenge 2

In the figure below, $L_1 \parallel L_2$, and $m$ is a transversal. Use a protractor to measure angles 1–8. List the angles that are equal in measure.

a. What did you notice about the measures of $\angle 1$ and $\angle 5$? Why do you think this is so? (Use your transparency if needed.)

b. What did you notice about the measures of $\angle 3$ and $\angle 7$? Why do you think this is so? (Use your transparency if needed.) Are there any other pairs of angles with this same relationship? If so, list them.

c. What did you notice about the measures of $\angle 4$ and $\angle 6$? Why do you think this is so? (Use your transparency if needed.) Is there another pair of angles with this same relationship?