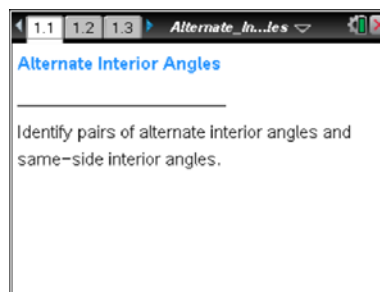# Alternate Interior Angles
Student Activity

Name _____

Class _____

Open the TI-Nspire document *Alternate_Interior_Angles*.

How do you know when you have alternate interior angles and same-side interior angles? In this lesson, you will identify pairs of these angles in complex figures and consider whether they are congruent.

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1. Hover over the segments until you find segment *L*. Then click.

    a. What happens to the segment when you click on it?

Press [esc] to start over.

    b. Click on segments *L* and *C*. What angle is formed by these segments?

Press [esc] to start over.

2. Click on the segments that form ∠2 and ∠3.

    a. What special name do we give ∠2 and ∠3? Why do you think these angles were given this name?

    b. Given *m* ∥ *p*, what do you know about the measures of ∠2 and ∠3? Justify your answer.

 c. What do you notice about the flashing segments?

3. Press $\boxed{\text{esc}}$. Find at least two more sets of segments that follow the pattern you discovered in part 2c.

 a. What pairs of angles are determined by each set of segments?

 b. What do you know about these pairs of angles?

4. Sherri highlighted segments *J*, *F*, and *T*. She concluded that ∠6 is congruent to ∠12. Do you agree? Why or why not?

5. Click on the segments that form ∠7 and ∠11.
 a. What special name do we give ∠7 and ∠11? Why do you think these angles were given this name?

 b. Given *m* ∥ *p*, what do you know about their angle measures? Base your answer on what you know about alternate interior angles.

6. Press ⎡esc⎤. Find at least two more sets of segments that follow the pattern you discovered in part 5b.

    a. What pairs of angles are determined by each set of segments?

    b. What do you know about these pairs of angles?

7. Identify a pair of numbered same-side interior angles that are not supplementary. Explain why.

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8. Identify all the numbered pairs of alternate interior angles that are congruent and the segments that form each pair.

9. Identify all the numbered same-side interior angles that are supplementary.