Unit 2 Lesson 15: Congruence for Quadrilaterals

1 True or . . . Sometimes True?: Parallelograms (Warm up)

Student Task Statement

Given that $ABCD$ is a parallelogram.

1. What must be true?

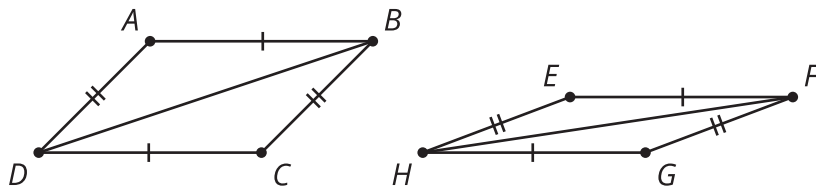2. What could possibly be true?

3. What definitely can't be true?

2 Floppy Quadrilaterals

Student Task Statement

Jada is learning about the triangle congruence theorems: Side-Side-Side, Angle-Side-Angle, and Side-Angle-Side. She wonders if there are any theorems like these for parallelograms.

1. If 2 parallelograms have all 4 pairs of corresponding sides congruent, do the parallelograms have to be congruent? If so, explain your reasoning. If not, use the tools available to show that it doesn't work.

2. In parallelograms $ABCD$ and $EFGH$, segment AB is congruent to segment EF, segment BC is congruent to segment FG, and angle ABC is congruent to angle EFG. Are $ABCD$ and $EFGH$ congruent? If so, explain your reasoning. If not, use the tools available to show that it doesn't work.

Activity Synthesis

3 Make Your Own Congruence Theorem

Student Task Statement

Come up with another criteria that is enough to be sure that 2 parallelograms are congruent. Try to use as few measurements as you can. Be prepared to convince others that your shortcut works.