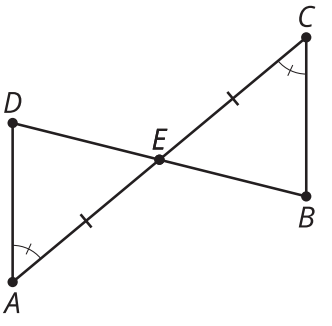
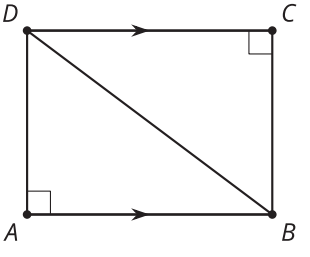
Lesson 7 Practice Problems

1. What triangle congruence theorem could you use to prove triangle ADE is congruent to triangle CBE?



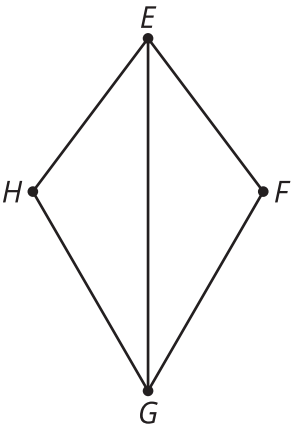
2. Han wrote a proof that triangle BCD is congruent to triangle DAB. Han's proof is incomplete. How can Han fix his proof?

$DC \parallel AB$

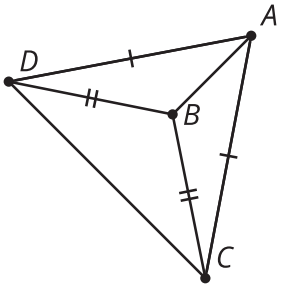


- Line AB is parallel to line DC and cut by transversal DB. So angles CDB and ABD are alternate interior angles and must be congruent.
- Side DB is congruent to side BD because they're the same segment.
- Angle A is congruent to angle C because they're both right angles.
- By the Angle-Side-Angle Triangle Congruence Theorem, triangle BCD is congruent to triangle DAB.

3. Segment GE is an angle bisector of both angle HEF and angle FGH. Prove triangle HGE is congruent to triangle FGE.



4. Triangles ACD and BCD are isosceles. Angle BAC has a measure of 33 degrees and angle BDC has a measure of 35 degrees. Find the measure of angle ABD.



(From Unit 2, Lesson 6.)

5. Which conjecture is possible to prove?

   A. All triangles with at least one side length of 5 are congruent.

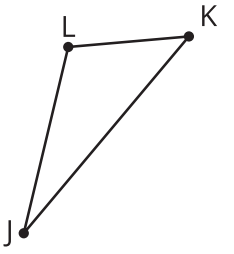
   B. All pentagons with at least one side length of 5 are congruent.

   C. All rectangles with at least one side length of 5 are congruent.

   D. All squares with at least one side length of 5 are congruent.

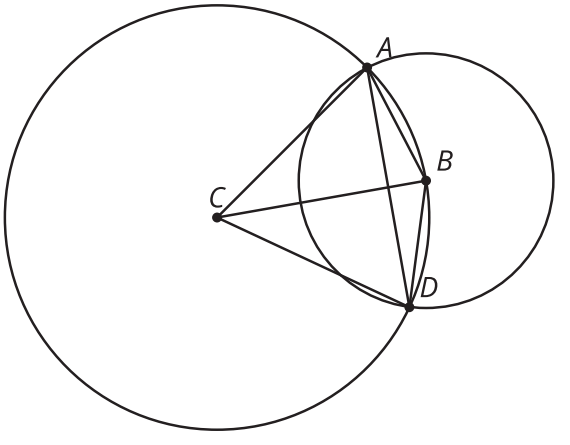
(From Unit 2, Lesson 5.)

6. Andre is drawing a triangle that is congruent to this one. He begins by constructing an angle congruent to angle LKJ. What is the least amount of additional information that Andre needs to construct a triangle congruent to this one?



(From Unit 2, Lesson 4.)

7. Here is a diagram of a straightedge and compass construction. C is the center of one circle, and B is the center of the other. Which segment has the same length as segment CA?



A. BA

B. BD

C. CB

D. AD

(From Unit 1, Lesson 1.)