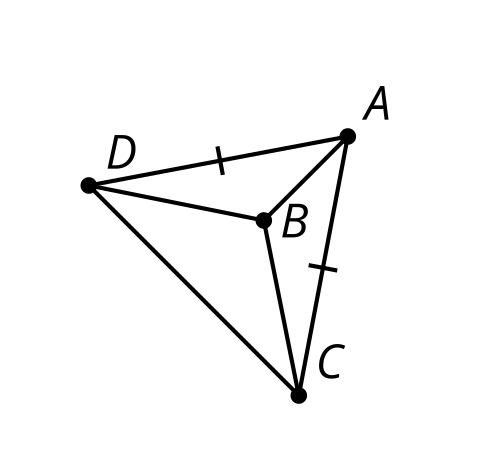
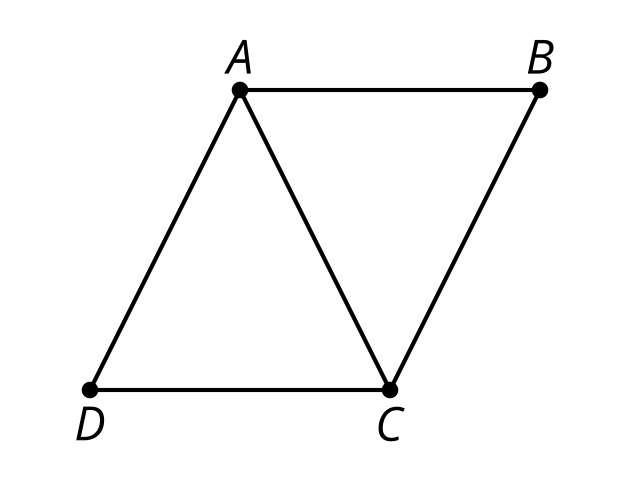
### Lesson 6 Practice Problems

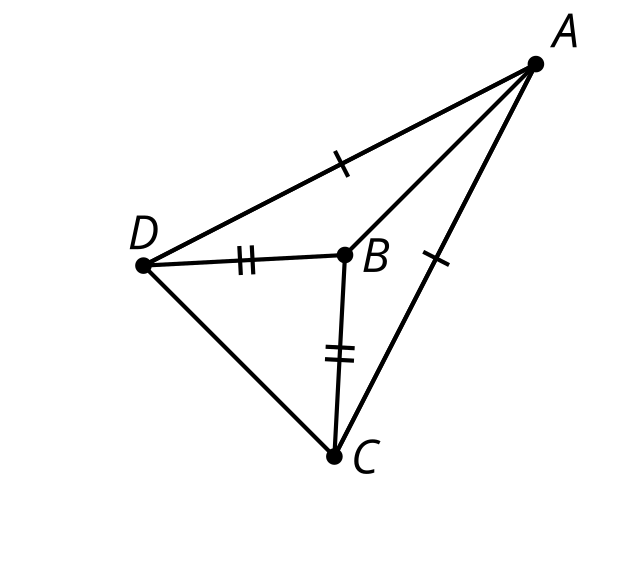
1. Triangle is isosceles with congruent sides and . Which additional given information is sufficient for showing that triangle is isosceles? Select **all** that apply.

* 
  1. Line  is an angle bisector of .
  2. Angle is congruent to angle .
  3. Angle is congruent to angle .
  4. Angle is congruent to angle .
  5. Triangle is congruent to triangle .

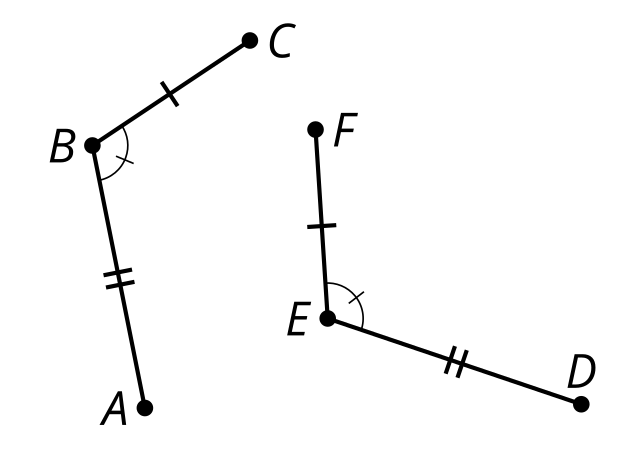
1. Tyler has written an incorrect proof to show that quadrilateral  is a parallelogram. He knows segments  and are congruent. He also knows angles  and are congruent. Find the mistake in his proof.

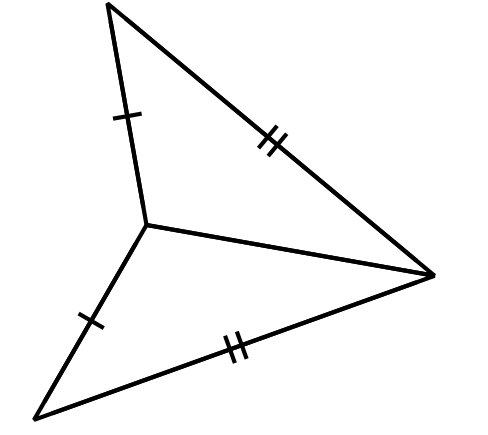
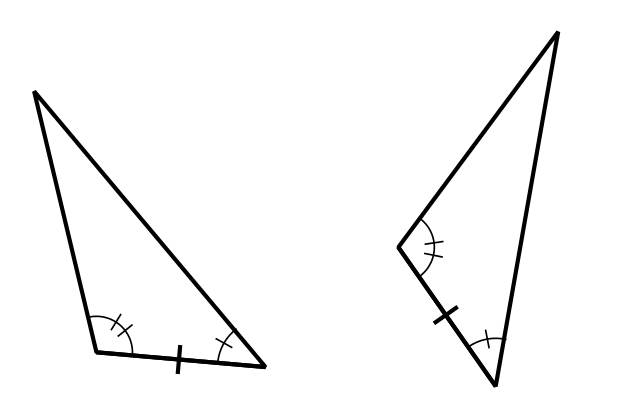
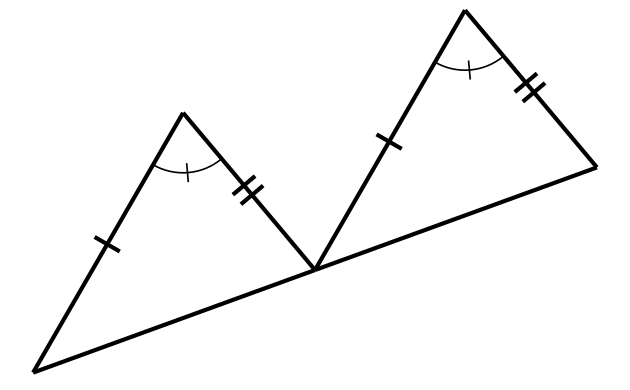
* Segment  is congruent to itself, so triangle  is congruent to triangle by Side-Angle-Side Triangle Congruence Theorem.  Since the triangles are congruent, so are the corresponding parts, and so angle  is congruent to .  In quadrilateral , is congruent to and is parallel to . Since is parallel to , alternate interior angles and are congruent. Since alternate interior angles are congruent,  must be parallel to . Quadrilateral must be a parallelogram since both pairs of opposite sides are parallel.
* 

1. Triangles and are isosceles. Angle has a measure of 18 degrees and angle has a measure of 48 degrees. Find the measure of angle .

* and
* 

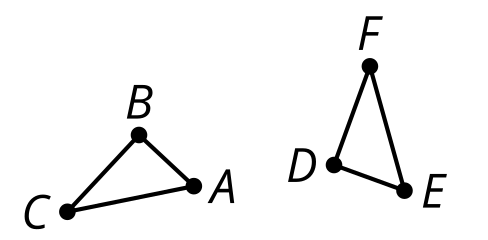
1. Here are some statements about 2 zigzags. Put them in order to prove figure is congruent to figure .

* 
  + 1: If necessary, reflect the image of figure across to be sure the image of , which we will call , is on the same side of as .
  + 2: must be on ray since both and are on the same side of and make the same angle with it at .
  + 3: Segments and are the same length so they are congruent. Therefore, there is a rigid motion that takes to . Apply that rigid motion to figure .
  + 4: Since points and are the same distance along the same ray from they have to be in the same place.
  + 5: Therefore, figure is congruent to figure .
* (From Unit 2, Lesson 5.)

1. Match each statement using only the information shown in the pairs of congruent triangles.
   1. The 2 angles and the included side of one triangle are congruent to 2 angles and the included side of another triangle.
   2. In the 2 triangles there are 3 pairs of congruent sides.
   3. The 2 sides and the included angle of one triangle are congruent to 2 sides and the included angle of another triangle.
   4. 
   5. 
   6. 

* (From Unit 2, Lesson 4.)

1. Triangle is congruent to triangle . So, Priya knows that there is a sequence of rigid motions that takes to .

* Select **all** true statements after the transformations:
* 
  1. Segment coincides with segment .
  2. Segment coincides with segment .
  3. Segment coincides with segment .
  4. Angle coincides with angle .
  5. Angle coincides with angle .
* (From Unit 2, Lesson 3.)



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