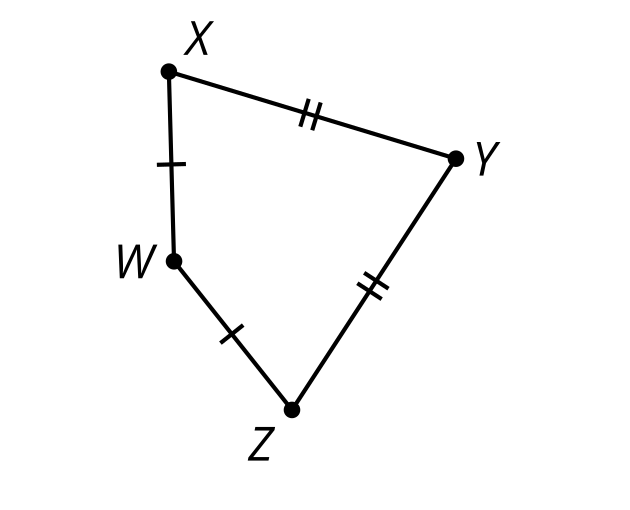
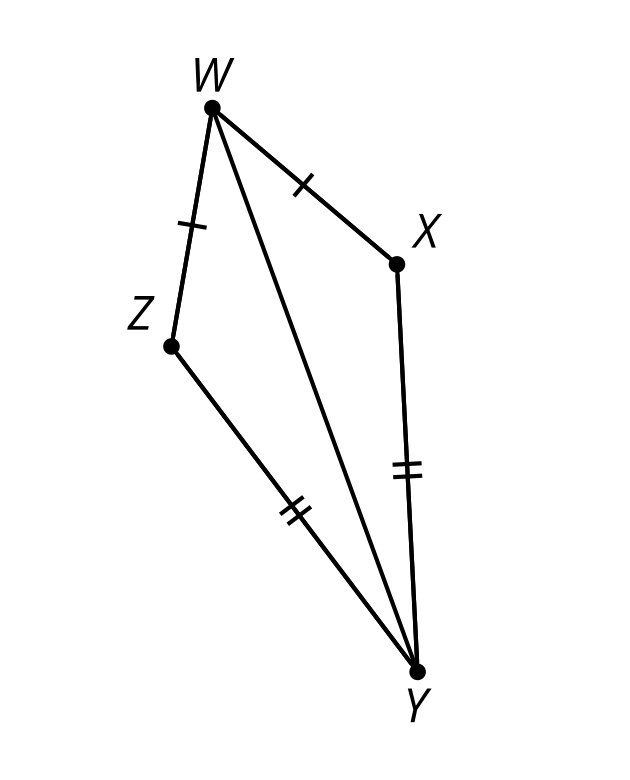
### Lesson 9 Practice Problems

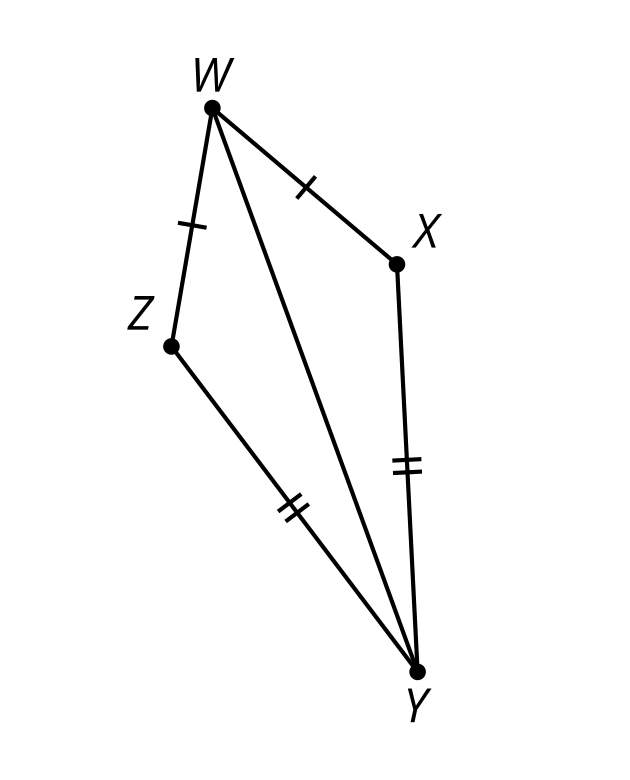
1. A kite is a quadrilateral which has 2 sides next to each other that are congruent and where the other 2 sides are also congruent. Given kite , show that at least one of the diagonals of a kite decomposes the kite into 2 congruent triangles.

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1. Mai has proven that triangle is congruent to triangle using the Side-Side-Side Triangle Congruence Theorem. Why can she now conclude that diagonal bisects angles and ?

* 

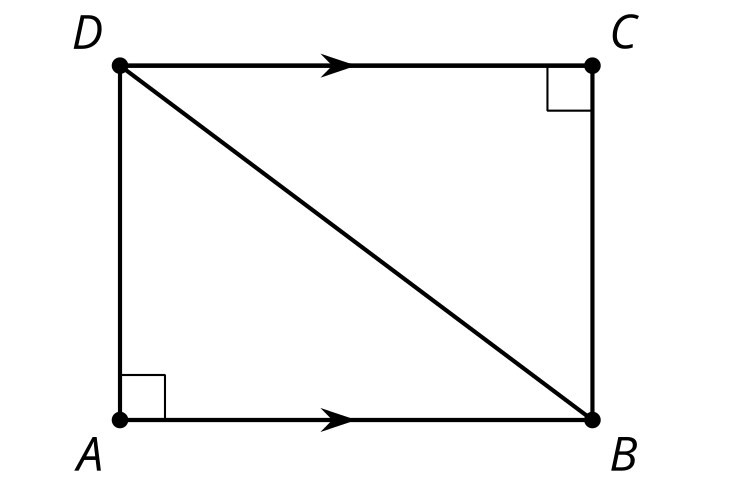
1. is a kite. Angle has a measure of 133 degrees and angle has a measure of 60 degrees. Find the measure of angle .

* 

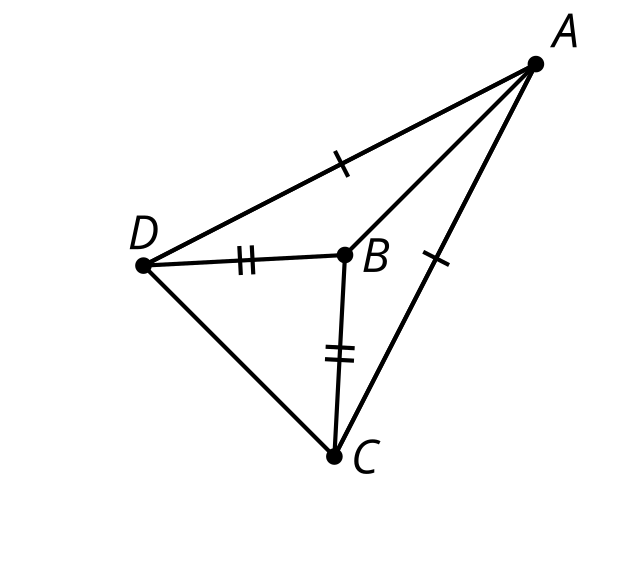
1. Each statement is always true. Select **all** statements for which the converse is also always true.
   1. Statement: If 2 angles form a straight angle, then they are supplementary. Converse: If 2 angles are supplementary, then they form a straight angle.
   2. Statement: In an isosceles triangle, the base angles are congruent. Converse: If the base angles of a triangle are congruent, then the triangle is isosceles.
   3. Statement: If a point is equidistant from the 2 endpoints of a segment, then it lies on the perpendicular bisector of the segment. Converse: If a point lies on the perpendicular bisector of a segment, then it is equidistant from the 2 endpoints of the segment.
   4. Statement: If 2 angles are vertical, then they are congruent. Converse: If 2 angles are congruent, then they are vertical.
   5. Statement: If 2 lines are perpendicular, then they intersect to form 4 right angles. Converse: If 2 lines intersect to form 4 right angles, then they are perpendicular.

* (From Unit 2, Lesson 8.)

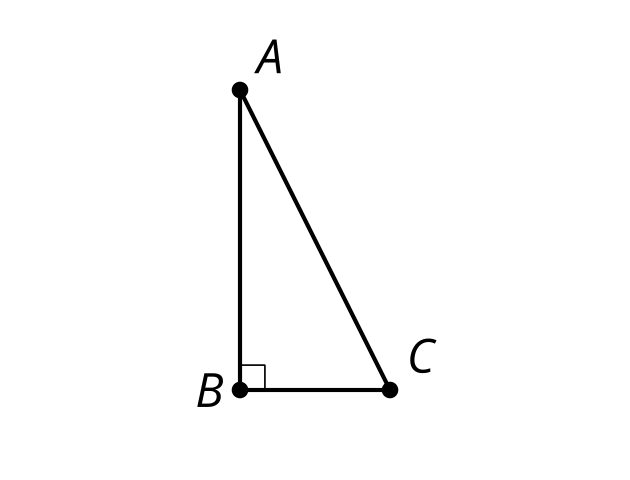
1. Prove triangle  is congruent to triangle .

* 
* (From Unit 2, Lesson 7.)

1. Triangles and are isosceles. Angle has a measure of 84 degrees and angle has a measure of 24 degrees. Find the measure of angle .

* and
* 
* (From Unit 2, Lesson 6.)

1. Reflect right triangle across line . Classify triangle according to its side lengths. Explain how you know.

* 
* (From Unit 2, Lesson 1.)



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