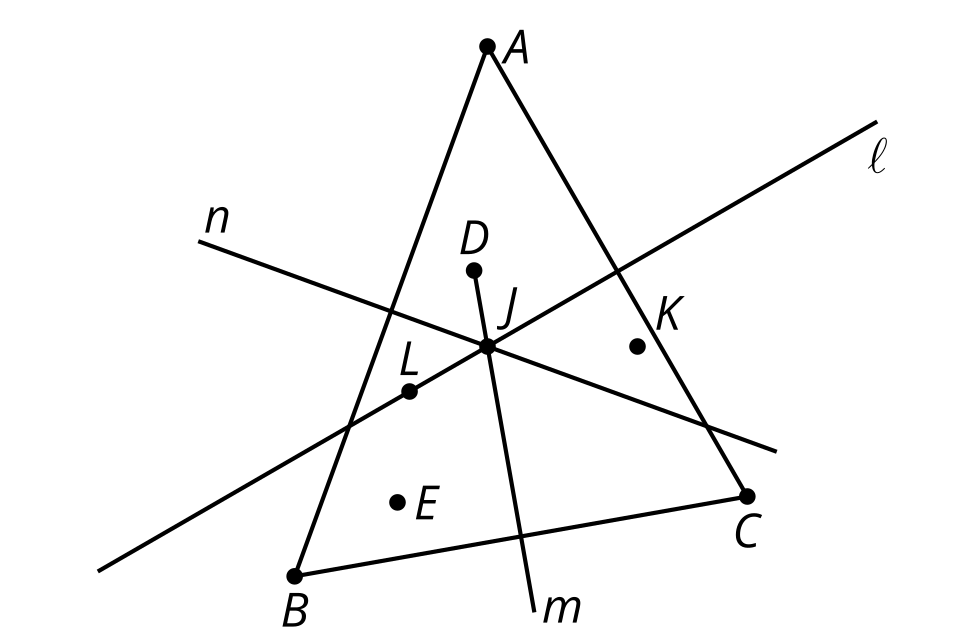
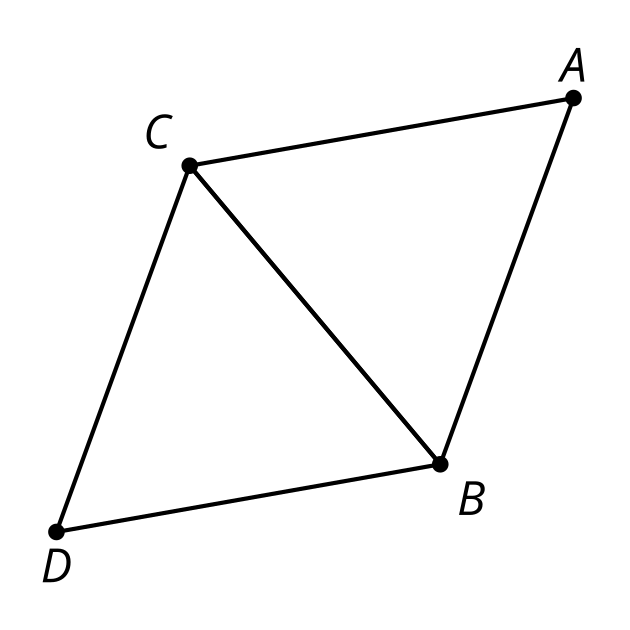
### Lesson 9 Practice Problems

1. Which construction can be used to determine whether point is closer to point or point ?
   1. Construct triangle .
   2. Construct a line perpendicular to segment through point .
   3. Construct the bisector of angle .
   4. Construct the perpendicular bisector of segment .
2. The diagram is a straightedge and compass construction. Lines , , and are the perpendicular bisectors of the sides of triangle . Select **all** the true statements.

* 
  1. Point is closer to point than it is to point .
  2. Point is closer to point than it is to point .
  3. Point is closer to point than it is to point .
  4. Point is closer to point than it is to point or point .
  5. Point is closer to point than it is to point or point .
  6. Point is closer to point than it is to point or point .

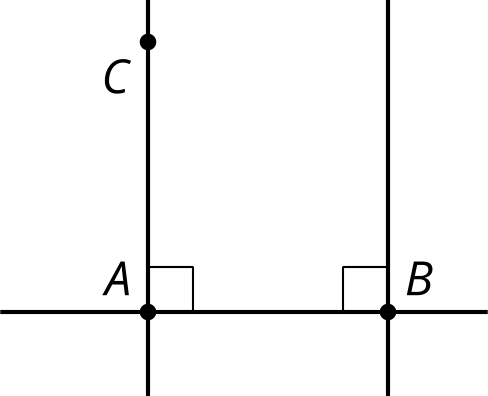
1. Decompose the figure into regions that are closest to each vertex. Explain or show your reasoning.

* 

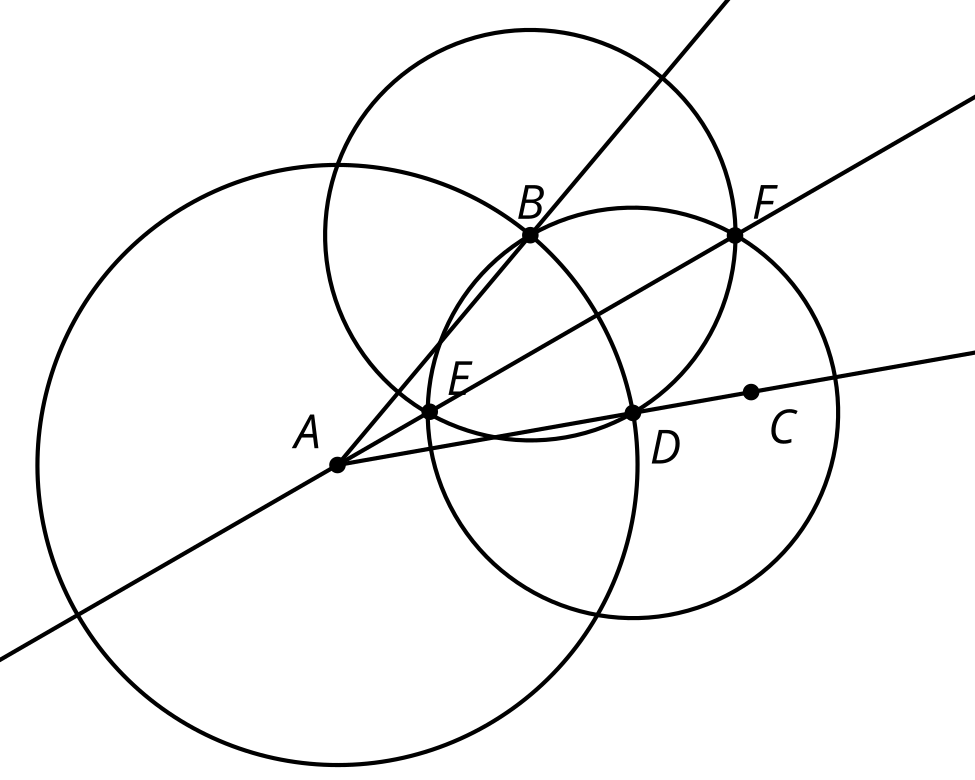
1. Which construction could be used to construct an isosceles triangle given line segment ?
   1. Mark a third point not on segment . Draw segments and .
   2. Label a point on segment and construct a line perpendicular to through point . Draw segments and .
   3. Construct the perpendicular bisector of segment . Mark the intersection of this line and and label it . Draw segments and .
   4. Construct the perpendicular bisector of segment . Mark any point on the perpendicular bisector except where it intersects . Draw segments and .
2. Select **all** true statements about regular polygons.
   1. All angles are right angles.
   2. All angles are congruent.
   3. All side lengths are equal.
   4. There are exactly 4 sides.
   5. There are at least 3 sides.

* (From Unit 1, Lesson 7.)

1. This diagram shows the beginning of a straightedge and compass construction of a rectangle.

* The construction followed these steps:
* 
  1. Start with two marked points and
  2. Use a straightedge to construct line
  3. Use a previous construction to construct a line perpendicular to passing through
  4. Use a previous construction to construct a line perpendicular to passing through
  5. Mark a point on the line perpendicular to passing through
* Explain the steps needed to complete this construction.
* (From Unit 1, Lesson 7.)

1. This diagram is a straightedge and compass construction. Is it important that the circle with center passes through and that the circle with center passes through ? Show or explain your reasoning.

* 
* (From Unit 1, Lesson 5.)



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