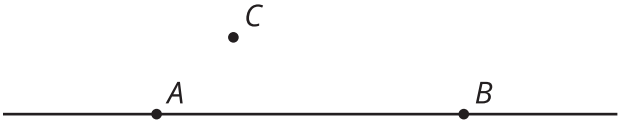
Lesson 6 Practice Problems

1. Which of the following constructions would help to construct a line passing through point C that is perpendicular to the line AB?



   A. Construction of an equilateral triangle with one side AB

   B. Construction of a hexagon with one side BC

   C. Construction of a perpendicular bisector through C

   D. Construction of a square with one side AB

2. Two distinct lines, ℓ and m, are each perpendicular to the same line n. Select **all** the true statements.

   A. Lines ℓ and m are perpendicular.

   B. Lines ℓ and n are perpendicular.

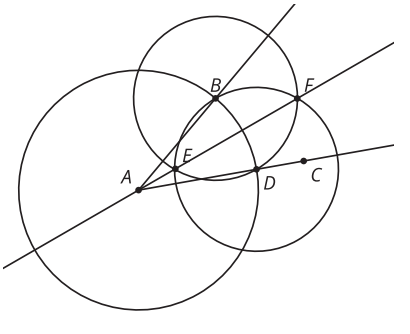
   C. Lines m and n are perpendicular.

   D. Lines ℓ and m are parallel.

   E. Lines ℓ and n are parallel.

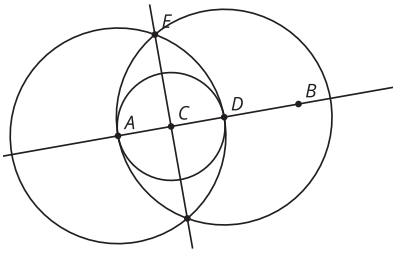
   F. Lines m and n are parallel.

3. This diagram is a straightedge and compass construction of the bisector of angle BAC. Only angle BAC is given. Explain the steps of the construction in order. Include a step for each new circle, line, and point.



(From Unit 1, Lesson 5.)

4. This diagram is a straightedge and compass construction of a line perpendicular to line AB passing through point C. Which segment has the same length as segment EA?



A. EC

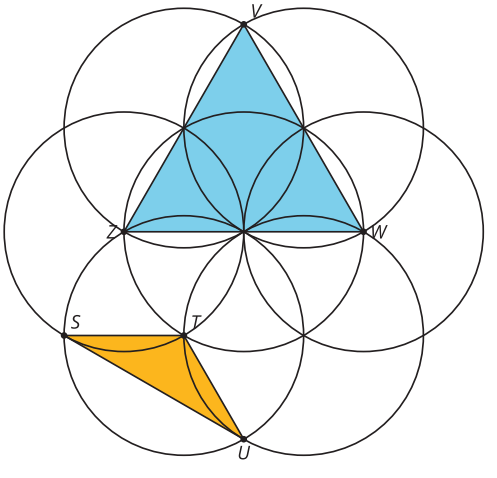
B. ED

C. BE

D. BD

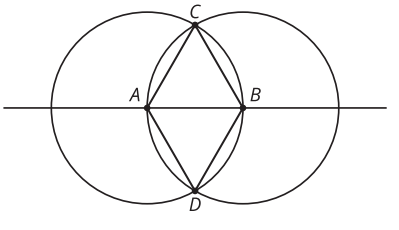
(From Unit 1, Lesson 5.)

5. This diagram is a straightedge and compass construction. Which triangle is equilateral? Explain how you know.



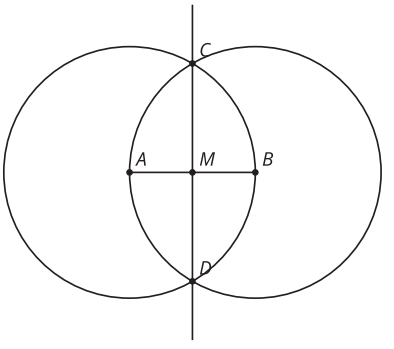
(From Unit 1, Lesson 4.)

6. In the construction, A is the center of one circle, and B is the center of the other. Name the segments in the diagram that have the same length as segment AB.



(From Unit 1, Lesson 2.)

7. This diagram is a straightedge and compass construction. A is the center of one circle, and B is the center of the other.

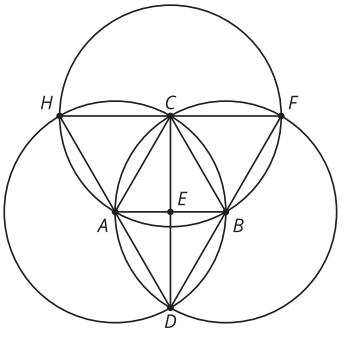


   a. Name a pair of perpendicular line segments.

   b. Name a pair of line segments with the same length.

(From Unit 1, Lesson 3.)

8. A, B, and C are the centers of the 3 circles. Select **all** the segments that are congruent to AB.



   A. HF

   B. HA

   C. CE

   D. CD

   E. BD

   F. BF

(From Unit 1, Lesson 4.)