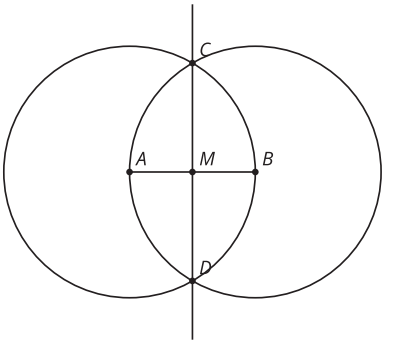
# Lesson 3 Practice Problems

1. This diagram is a straightedge and compass construction. $A$ is the center of one circle, and $B$ is the center of the other. Select **all** the true statements.




   A. Line $CD$ is perpendicular to segment $AB$

   B. Point $M$ is the midpoint of segment $AB$

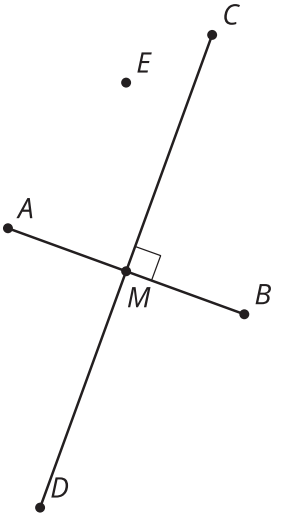
   C. The length $AB$ is the equal to the length $CD$.

   D. Segment $AM$ is perpendicular to segment $BM$

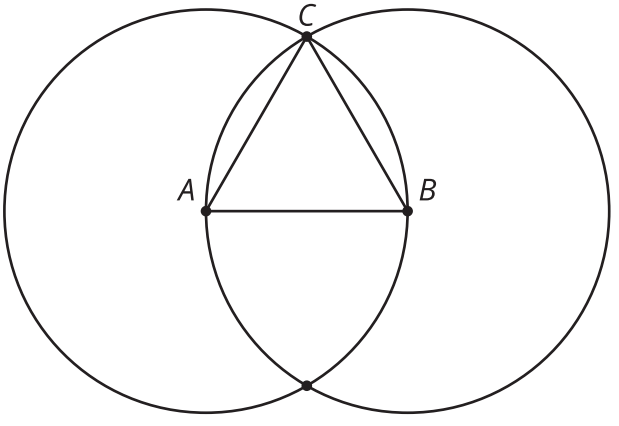
   E. $CB + BD > CD$

2. In this diagram, line segment $CD$ is the perpendicular bisector of line segment $AB$. Assume the conjecture that the set of points equidistant from $A$ and $B$ is the perpendicular bisector of $AB$ is true. Is point $E$ closer to point $A$, closer to point $B$, or the same distance between the points? Explain how you know.

$AB \perp CD$

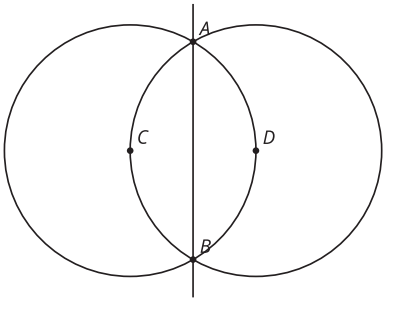


3. Starting with 2 marked points, $A$ and $B$, precisely describe the straightedge and compass moves required to construct the triangle $ABC$ in this diagram.




(From Unit 1, Lesson 2.)

4. This diagram was created by starting with points $C$ and $D$ and using only straightedge and compass to construct the rest. All steps of the construction are visible. Select **all** the steps needed to produce this diagram.




A. Construct a circle centered at $A$.

B. Construct a circle centered at $C$.

C. Construct a circle centered at $D$.

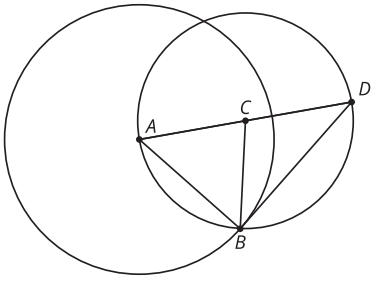
D. Label the intersection points of the circles $A$ and $B$.

E. Draw the line through points $C$ and $D$.

F. Draw the line through points $A$ and $B$.

(From Unit 1, Lesson 2.)

5. This diagram was constructed with straightedge and compass tools. $A$ is the center of one circle, and $C$ is the center of the other. Select **all** true statements.




A. $AB = BC$

B. $AB = BD$

C. $AD = 2AC$

D. $BC = CD$

E. $BD = CD$

(From Unit 1, Lesson 1.)