
 NAME

DATE

PERIOD

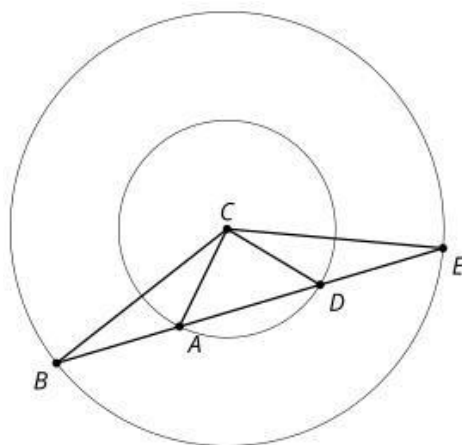
Assessment

Constructions and Rigid Transformations: Mid-Unit Assessment

You may use construction tools.

1. This diagram is a straightedge and compass construction. C is the center of both circles.

Select **all** statements that must be true by construction.



- A. Segments AB and AD have the same length.
 - B. Segments AC and AD have the same length.
 - C. Segments AC and CD have the same length.
 - D. Triangle BCE is isosceles.
 - E. Triangle CDE is isosceles.
2. Line CD is the perpendicular bisector of segment AB . The lines intersect at point E . Which of these statements is true?
- A. E is closer to A .
 - B. E is closer to B .
 - C. E is the same distance from A and B .
 - D. There is not enough information to be sure.

 NAME

DATE

PERIOD

3. Priya followed this set of instructions to make quadrilateral $ACBD$. Choose a description you can be sure is accurate for the shape she constructed.

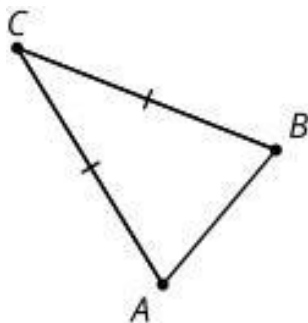
- a. Draw 2 points: A and B .
- b. Draw a circle centered at A with radius AB .
- c. Draw a circle centered at B with radius AB .
- d. Label the intersection points of the circles C and D .
- e. Draw segments AC , BC , AD , and BD .

- A. 2 congruent sides, but not all 4
- B. 4 congruent angles
- C. 4 congruent sides
- D. 4 congruent sides and 4 congruent angles

4. What is the definition of a circle?

5. Triangle ABC is isosceles.

Use straightedge and compass tools to construct the perpendicular bisector for segment AB .

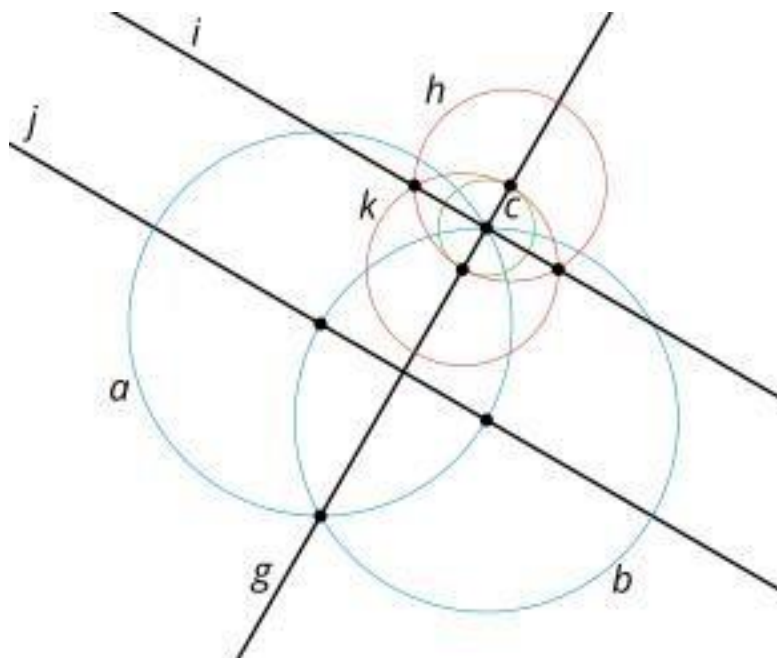


 NAME

DATE

PERIOD

6. Han followed these instructions to make the image.
- Given line j , mark 2 points on the line.
 - Construct congruent circles a and b centered at the points on j .
 - Construct line g through the intersection points of a and b .
 - Construct circle c centered at 1 intersection point of a and b . Mark the 2 intersection points of c and g .
 - Construct congruent circles h and k centered at the points on g .
 - Construct line i through the intersection points of h and k .



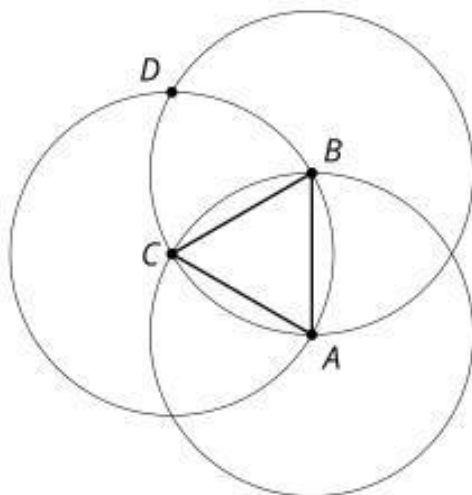
Write a statement about each pair of lines in this construction. (3 statements)

 NAME

DATE

PERIOD

7. The 3 circles in the diagram have centers A , B , and C .



- a. Explain why segments AB and AC have the same length.

- b. Classify triangle ABC . Justify your classification.

- c. Mai wants to construct a regular hexagon inscribed in the circle centered at C . Will these instructions work to finish the hexagon from the construction given? If so, explain why Mai is correct. If not, finish the construction correctly.
 - i. Draw the circle centered at D with radius CD .
 - ii. Mark the intersection of the circle with the circle centered at C , and label that point E .
 - iii. Draw the circle centered at E with radius DE .
 - iv. Mark the intersection of the circle with the circle centered at D , and label that point F .
 - v. Connect $ABCDEF$ to make a regular hexagon.