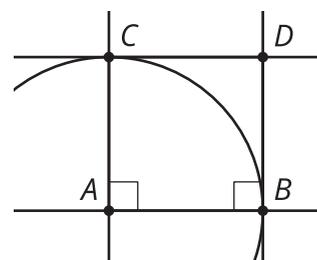


## Lesson 7 Practice Problems

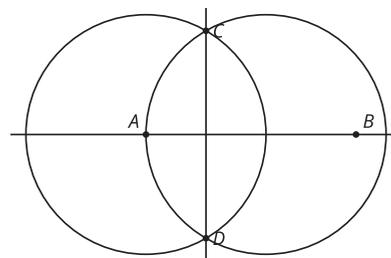
1. Which of these statements is true?
  - A. All rectangles are regular polygons.
  - B. All squares are regular polygons.
  - C. All rhombi are regular polygons.
  - D. All parallelograms are regular polygons.
  
2. This diagram is a straightedge and compass construction of a square  $BACD$  (not all markings are shown). The construction followed these steps:



- a. Start with two marked points  $A$  and  $B$
- b. Use a straightedge to construct line  $AB$
- c. Use a previous construction to construct a line perpendicular to  $AB$  passing through  $A$
- d. Use a previous construction to construct a line perpendicular to  $AB$  passing through  $B$
- e. Use a compass to construct a circle centered at  $A$  passing through  $B$
- f. Label an intersection point of that circle and the line from step 3 as  $C$
- g. Use a previous construction to construct a line parallel to  $AB$  passing through  $C$
- h. Label the intersection of that line and the line from step 4 as  $D$
- i. Use a straightedge to construct the segments  $AC$ ,  $CD$ , and  $DB$

Explain why you need to construct a circle in step 5.

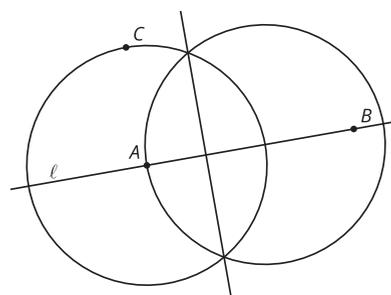
3. To construct a line passing through the point  $C$  that is parallel to the line  $AB$ , the first step is to create a line through  $C$  perpendicular to  $AB$ . What is the next step?



- A. Construct an equilateral triangle with side  $CD$ .
- B. Construct a line through point  $B$  perpendicular to  $AB$ .
- C. Construct a segment with the same length as  $AB$  with endpoint  $C$ .
- D. Construct a line through point  $C$  perpendicular to  $CD$ .

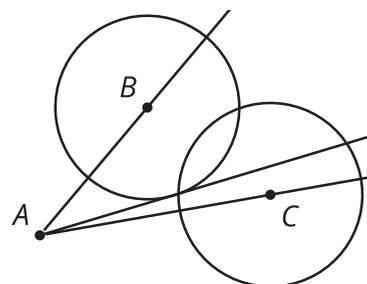
(From Unit 1, Lesson 6.)

4. Jada wanted to construct a line perpendicular to line  $\ell$  through point  $C$ . The diagram shows her construction. What was her mistake?



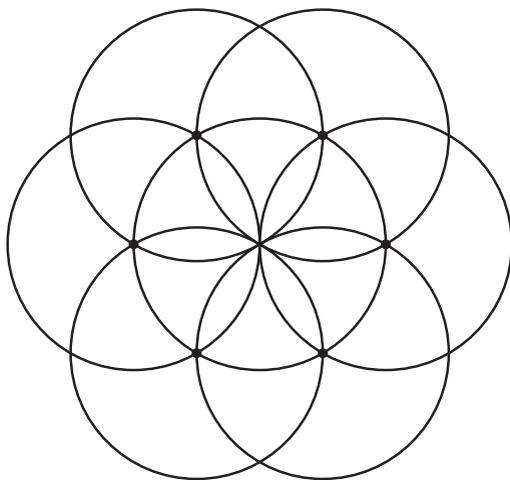
(From Unit 1, Lesson 6.)

5. Noah is trying to bisect angle  $BAC$ . He draws circles of the same radius with centers  $B$  and  $C$  and then uses one of the points of intersection for his ray. What mistake has Noah made in his construction?



(From Unit 1, Lesson 5.)

6. Here is a straightedge and compass construction. Use a straightedge to draw an equilateral triangle on the figure. Explain how you know the triangle is equilateral.



(From Unit 1, Lesson 4.)

7. Here are 2 points in the plane. Explain how to construct a line segment that is half the length of segment  $AB$ .



(From Unit 1, Lesson 3.)