### Lesson 7 Practice Problems

1. Which of these statements is true?
	1. All rectangles are regular polygons.
	2. All squares are regular polygons.
	3. All rhombi are regular polygons.
	4. 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:
* 
	1. Start with two marked points $A$ and $B$
	2. Use a straightedge to construct line $AB$
	3. Use a previous construction to construct a line perpendicular to $AB$ passing through $A$
	4. Use a previous construction to construct a line perpendicular to $AB$ passing through $B$
	5. Use a compass to construct a circle centered at $A$ passing through $B$
	6. Label an intersection point of that circle and the line from step 3 as $C$
	7. Use a previous construction to construct a line parallel to $AB$ passing through $C$
	8. Label the intersection of that line and the line from step 4 as $D$
	9. Use a straightedge to construct the segments $AC$, $CD$, and $DB$
* Explain why you need to construct a circle in step 5.
1. 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?
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	1. Construct an equilateral triangle with side $CD$.
	2. Construct a line through point $B$ perpendicular to $AB$.
	3. Construct a segment with the same length as $AB$ with endpoint $C$.
	4. Construct a line through point $C$ perpendicular to $CD$.
* (From Unit 1, Lesson 6.)
1. Jada wanted to construct a line perpendicular to line $ℓ$ through point $C$. The diagram shows her construction. What was her mistake?
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* (From Unit 1, Lesson 6.)
1. 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?
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* (From Unit 1, Lesson 5.)
1. 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.
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* (From Unit 1, Lesson 4.)
1. Here are 2 points in the plane.  Explain how to construct a line segment that is half the length of segment $AB$.
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* (From Unit 1, Lesson 3.)



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