### Lesson 15 Practice Problems

1. For each figure, identify any lines of symmetry the figure has.
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1. In quadrilateral $BADC$, $AB=AD$ and $BC=DC$. The line $AC$ is a line of symmetry for this quadrilateral.
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	1. Based on the line of symmetry, explain why the diagonals $AC$ and $BD$ are perpendicular.
	2. Based on the line of symmetry, explain why angles $ABC$ and $ADC$ have the same measure.
1. Three line segments form the letter Z. Rotate the letter Z counterclockwise around the midpoint of segment $BC$ by 180 degrees. Describe the result.
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* (From Unit 1, Lesson 14.)
1. There is a square, $ABCS$, inscribed in a circle with center $D$. What is the smallest angle we can rotate around $D$ so that the image of $A$ is $B$?
	1. $45^{∘}$
	2. $60^{∘}$
	3. $90^{∘}$
	4. $180^{∘}$
* (From Unit 1, Lesson 14.)
1. Points $A$, $B$, $C$, and $D$ are vertices of a square.  Point $E$ is inside the square. Explain how to tell whether point $E$ is closer to $A$, $B$, $C$, or $D$.
* (From Unit 1, Lesson 9.)
1. Lines $ℓ$ and $m$ are perpendicular.
* Sometimes reflecting a point over $m$ has the same effect as rotating the point 180 degrees using center $P$. Select **all** labeled points which have the same image for both transformations.
* $m⊥ℓ$
* 
	1. A
	2. B
	3. C
	4. D
	5. E
* (From Unit 1, Lesson 11.)
1. Here is triangle $POG$. Match the description of the rotation with the image of $POG$ under that rotation.
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	1. Rotate 60 degrees clockwise around $O$.
	2. Rotate 120 degrees clockwise around $O$.
	3. Rotate 60 degrees counterclockwise around $O$.
	4. Rotate 60 degrees clockwise around $P$.
	5. 
	6. 
	7. 
	8. 
* (From Unit 1, Lesson 13.)



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