### Lesson 21 Practice Problems

1. The triangles here are each obtained by applying rigid motions to triangle 1.
* 
	1. Which triangles are translations of triangle 1? Explain how you know.
	2. Which triangles are not translations of triangle 1? Explain how you know.
1. The quadrilateral is a parallelogram. Find the measure of angles 1, 2, and 3.
* 
1. In the figure shown, lines $f$ and $g$ are parallel. Select the angle that is congruent to angle 1.
* 
	1. Angle 2
	2. Angle 6
	3. Angle 7
	4. Angle 8
* (From Unit 1, Lesson 20.)
1. Angle $BDE$ is congruent to angle $BAC$. Name another pair of congruent angles. Explain how you know.
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* (From Unit 1, Lesson 20.)
	1. Describe a transformation that could be used to show that corresponding angles are congruent.
	2. Describe a transformation that could be used to show that alternate interior angles are congruent.
* (From Unit 1, Lesson 20.)
1. Lines $AD$ and $EC$ meet at point $B$.
* Which of these *must* be true? Select **all** that apply.
* 
	1. A 180 degree clockwise rotation using center $B$ takes $D$ to $A$.
	2. The image of $D$ after a 180 degree rotation using center $B$ lies on ray $BA$.
	3. If a 180 degree rotation using center $B$ takes $C$ to $E$ then it also takes $E$ to $C$.
	4. Angle $ABC$ is congruent to angle $DBE$.
	5. Angle $ABE$ is congruent to angle $ABC$.
* (From Unit 1, Lesson 19.)
1. Points $E$, $B$, and $C$ are collinear. Explain why points $A$, $B$, and $D$ are collinear.
* 
* (From Unit 1, Lesson 19.)
	1. Draw the image of figure $ACTS$ after a clockwise rotation around point $C$ using angle $CTS$ and then a translation by the directed line segment $CT$.
	2. Describe another sequence of transformations that will result in the same image.
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* (From Unit 1, Lesson 18.)
1. Triangle $ABC$ is congruent to triangle $A^{′}B^{′}C^{′}$.  Describe a sequence of rigid motions that takes $A$ to $A^{′}$, $B$ to $B^{′}$, and $C$ to $C^{′}$.
* 
* (From Unit 1, Lesson 17.)



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