### 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.

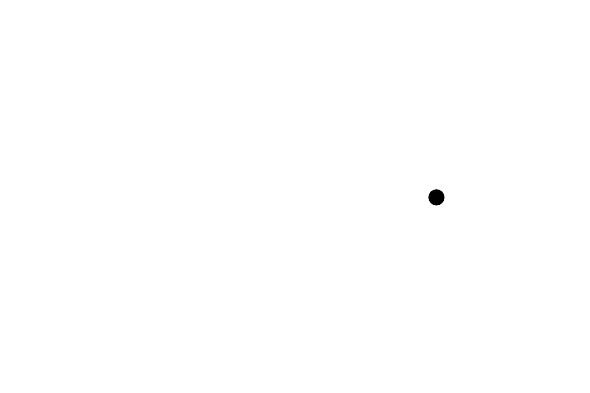
1. The quadrilateral is a parallelogram. Find the measure of angles 1, 2, and 3.

* 

1. In the figure shown, lines and are parallel. Select the angle that is congruent to angle 1.

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  1. Angle 2
  2. Angle 6
  3. Angle 7
  4. Angle 8
* (From Unit 1, Lesson 20.)

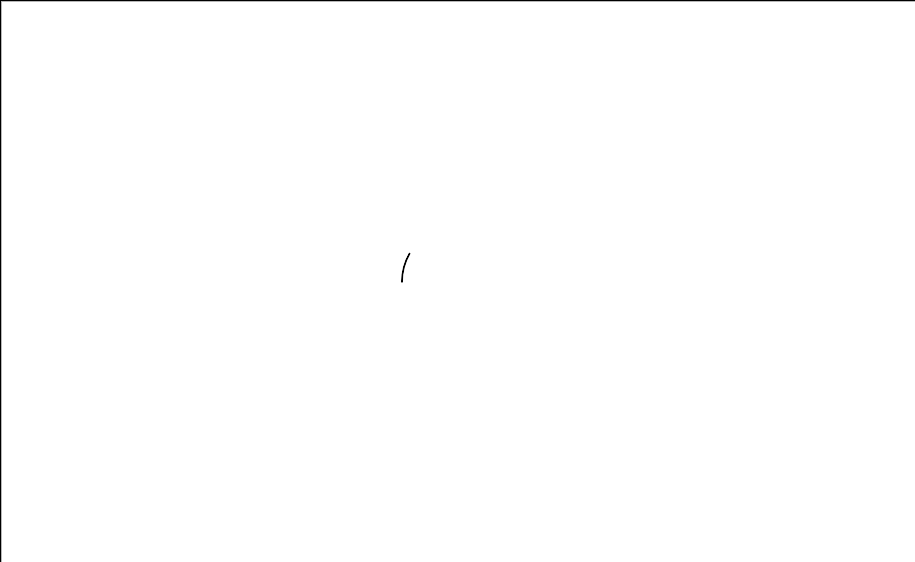
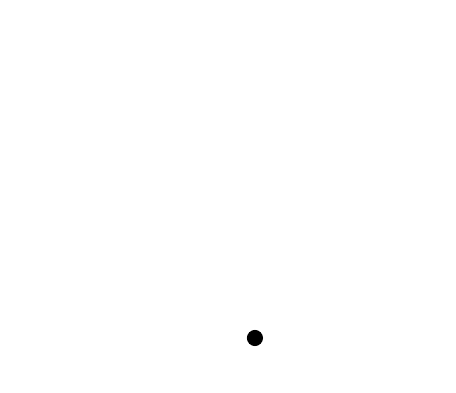
1. Angle is congruent to angle . Name another pair of congruent angles. Explain how you know.

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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 and meet at point .

* Which of these *must* be true? Select **all** that apply.
* 
  1. A 180 degree clockwise rotation using center takes  to .
  2. The image of after a 180 degree rotation using center lies on ray .
  3. If a 180 degree rotation using center takes to then it also takes to .
  4. Angle is congruent to angle .
  5. Angle is congruent to angle .
* (From Unit 1, Lesson 19.)

1. Points , , and are collinear. Explain why points , , and are collinear.

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* (From Unit 1, Lesson 19.)
  1. Draw the image of figure after a clockwise rotation around point using angle  and then a translation by the directed line segment .
  2. Describe another sequence of transformations that will result in the same image.
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* (From Unit 1, Lesson 18.)

1. Triangle is congruent to triangle .  Describe a sequence of rigid motions that takes to , to , and to .

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* (From Unit 1, Lesson 17.)



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