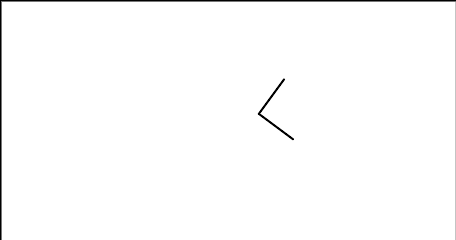
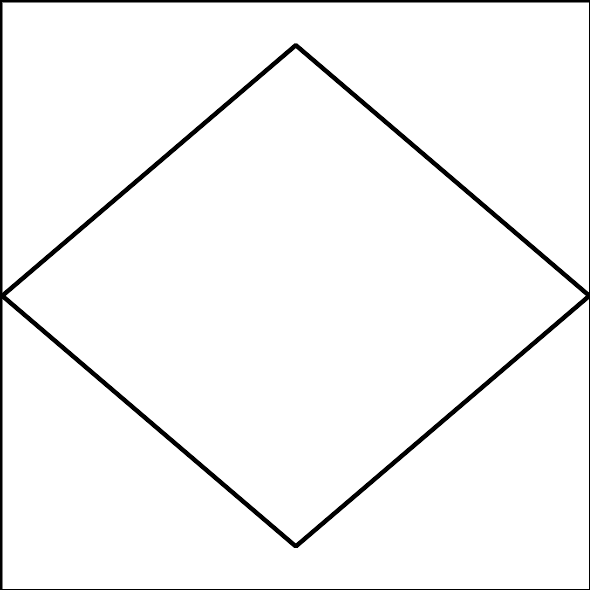
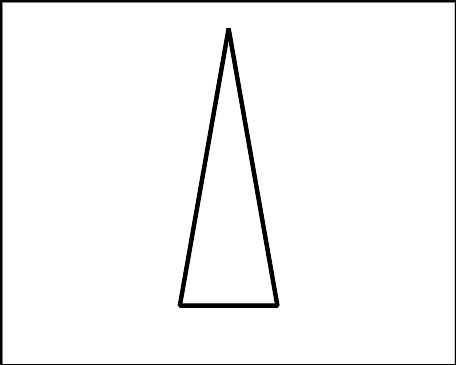
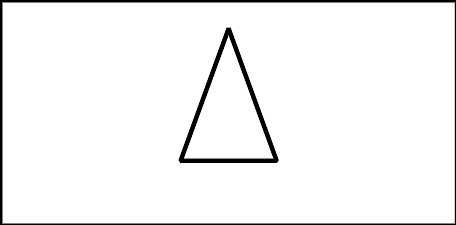
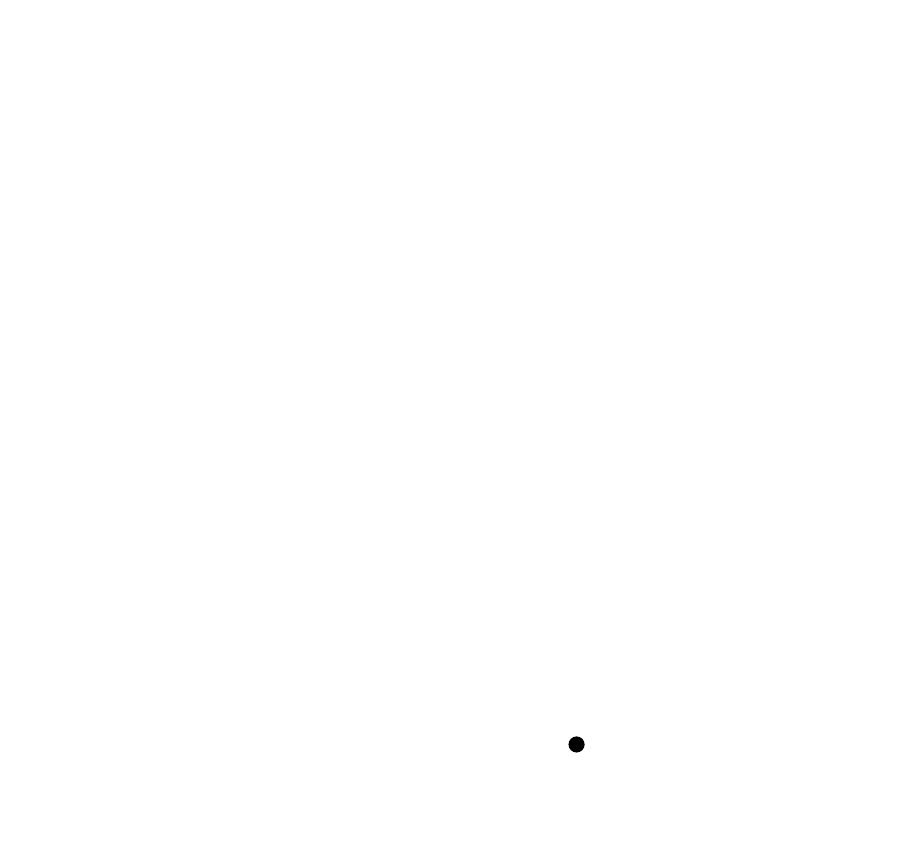
### Lesson 8 Practice Problems

1. This is an invalid proof that all isosceles triangles are similar. Explain which step is invalid and why.

* 1. Draw 2 isosceles triangles and where and .
* 2. Dilate triangle to a new triangle using center and scale factor so that .
* 3. Translate by directed line segment to take to a new triangle . Since translation preserves distance,  and .
* 4. Since , we can rotate using center to take to .
* 5. Since , we can rotate using center to take to .
* 6. We have now established a sequence of dilations, translations, and rotations that takes  to , to , and to , so the triangles are similar.

1. Which statement provides a valid justification for why all circles are similar?
   1. All circles have the same shape—a circle—so they must be similar.
   2. All circles have no angles and no sides, so they must be similar.
   3. I can translate any circle exactly onto another, so they must be similar.
   4. I can translate the center of any circle to the center of another, and then dilate from that center by an appropriate scale factor, so they must be similar.
2. Which pair of polygons is similar?
   1. 
   * 
   1. 
   * 
   1. 
   * 
   1. 
   * 
3. Select **all** sequences of transformations that would show that triangles and are similar. The length of  is  units.

* 
  1. Dilate triangle using center by a scale factor of , then reflect over line .
  2. Dilate triangle using center by a scale factor of , then reflect over line .
  3. Reflect triangle over line , then dilate using center by a scale factor of .
  4. Reflect triangle over line , then dilate using center by a scale factor of .
  5. Translate triangle by directed line segment , then dilate using center by scale factor .
  6. Translate either triangle or by directed line segment , then reflect over line .
* (From Unit 3, Lesson 7.)

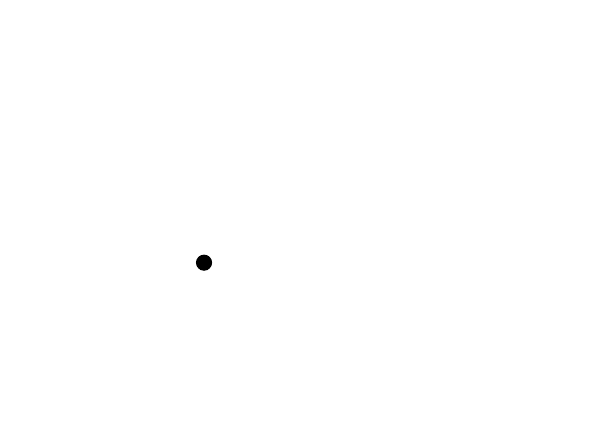
1. Determine if each statement must be true, could possibly be true, or definitely can't be true. Explain or show your reasoning.
   1. Two equilateral triangles are similar.
   2. An equilateral triangle and a square are similar.

* (From Unit 3, Lesson 7.)

1. Find a sequence of rigid transformations and dilations that takes square to square .

* 
* (From Unit 3, Lesson 6.)

1. Select **all** true statements given that angle  is congruent to angle

* 
  1. Angle is
  2. Angle is
  3. Triangle is similar to triangle
* (From Unit 3, Lesson 5.)



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