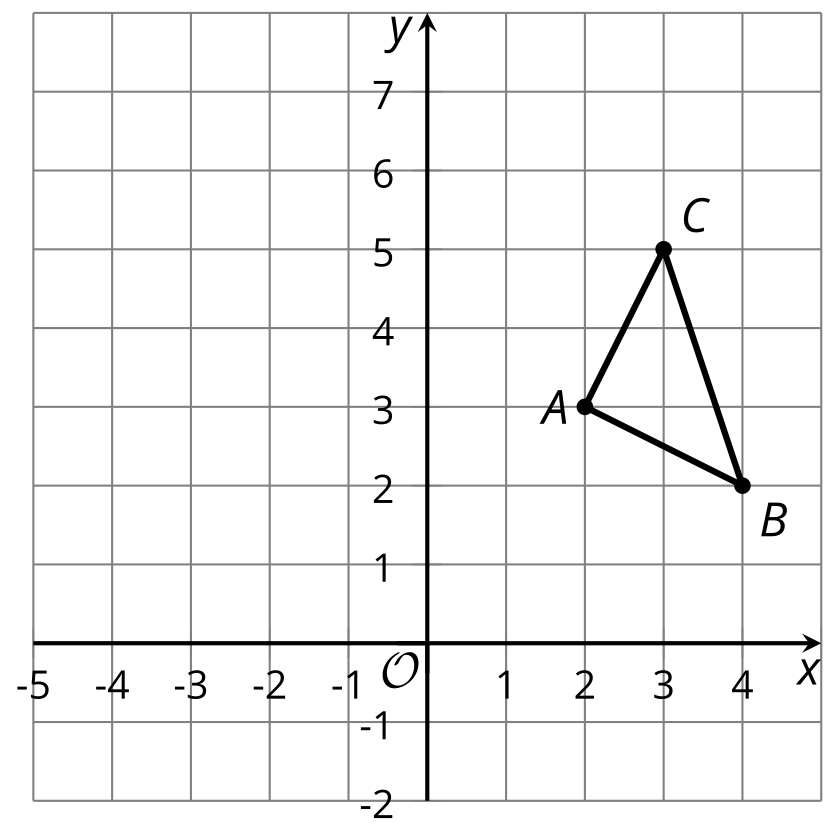
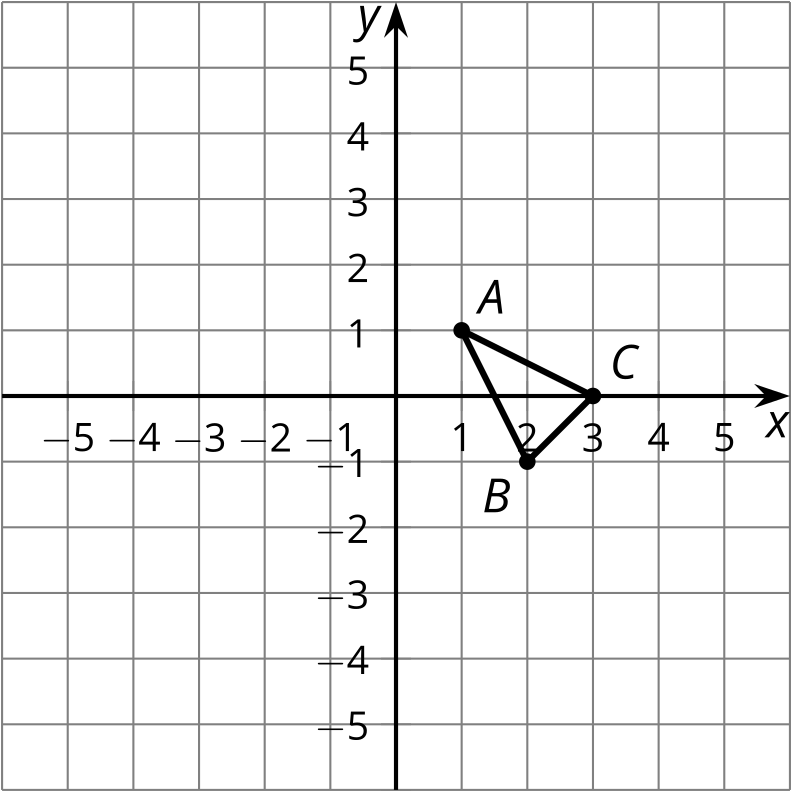
### Lesson 2 Practice Problems

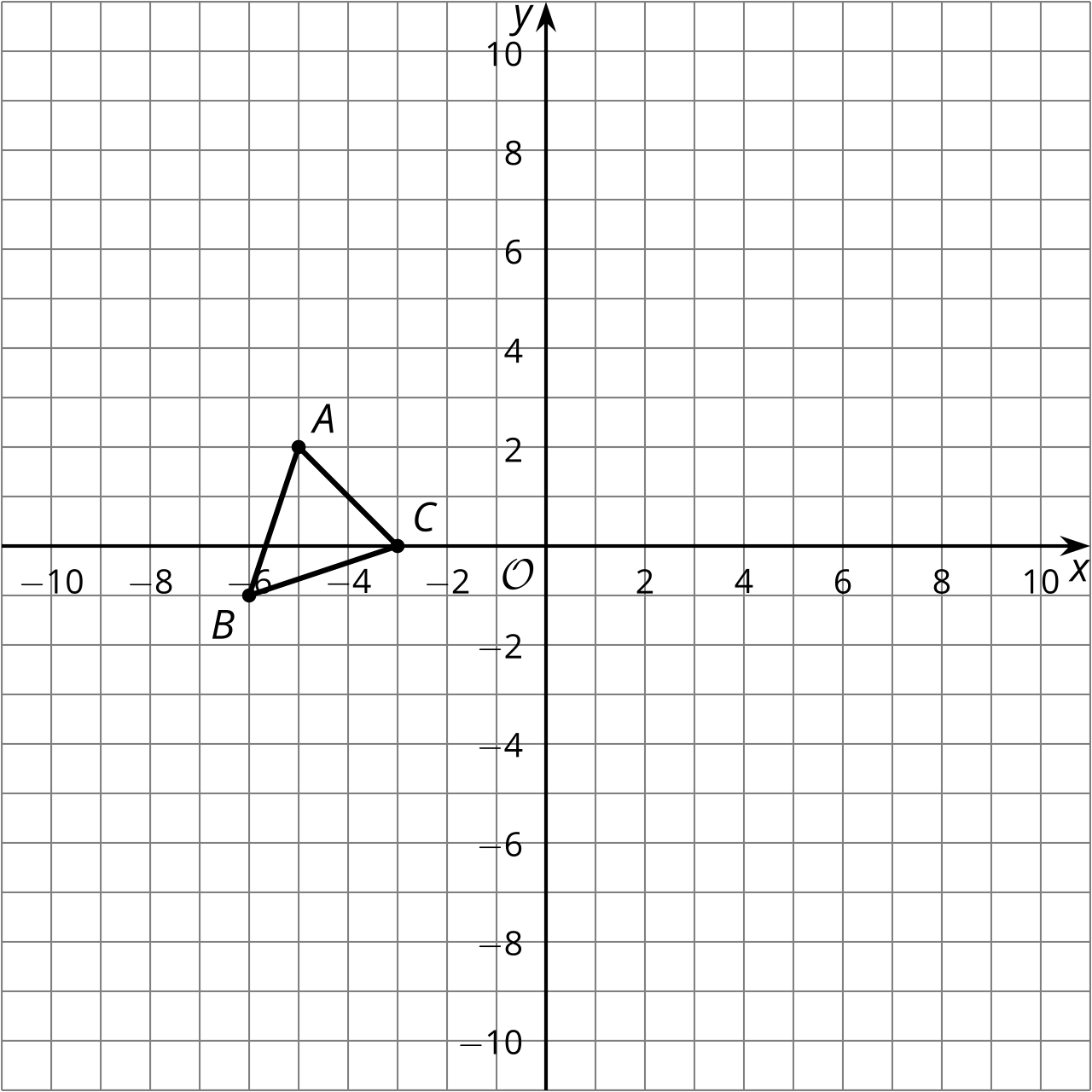
1. Match each coordinate rule to a description of its resulting transformation.
   1. Translate by the directed line segment from to .
   2. Translate by the directed line segment from to .
   3. Dilate using the origin as the center and a scale factor of 2.
   4. Translate by the directed line segment from to .
   5. Translate by the directed line segment from to .
   6. Draw the image of triangle under the transformation . Label the result .
   7. Draw the image of triangle under the transformation . Label the result .

* 

1. Here are some transformation rules. For each rule, describe whether the transformation is a rigid motion, a dilation, or neither.
2. Reflect triangle over the line . Call this new triangle . Then reflect triangle over the line . Call the resulting triangle .

* Which single transformation takes to ?
* 
  1. Translate triangle by the directed line segment from to .
  2. Reflect triangle across the line .
  3. Rotate triangle counterclockwise using the origin as the center by 180 degrees.
  4. Dilate triangle using the origin as the center and a scale factor of 2.
* (From Unit 6, Lesson 1.)

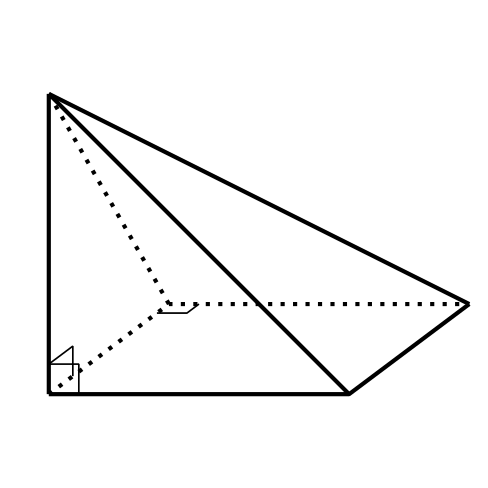
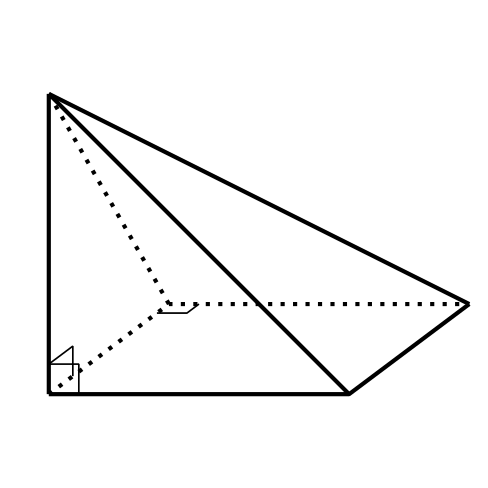
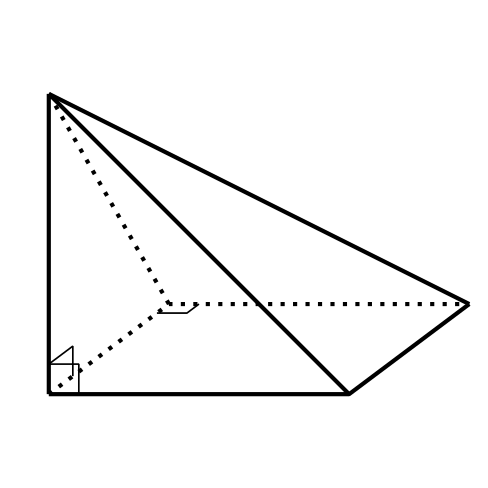
1. Reflect triangle over the line .

* Translate the image by the directed line segment from to .
* What are the coordinates of the vertices in the final image?
* 
* (From Unit 6, Lesson 1.)

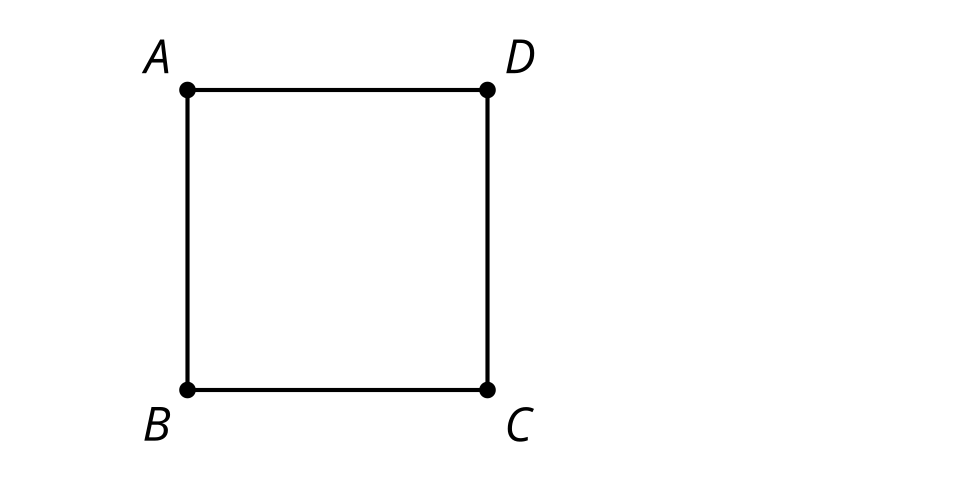
1. The density of water is 1 gram per cm3. An object floats in water if its density is less than water’s density, and it sinks if its density is greater than water’s. Will a cylindrical log with radius 0.4 meters, height 5 meters, and mass 1,950 kilograms sink or float? Explain your reasoning.

* (From Unit 5, Lesson 17.)

1. These 3 congruent square pyramids can be assembled into a cube with side length 3 feet. What is the volume of each pyramid?

* 
* 
* 
  1. 1 cubic foot
  2. 3 cubic feet
  3. 9 cubic feet
  4. 27 cubic feet
* (From Unit 5, Lesson 12.)

1. Reflect square  across line . What is the ratio of the length of segment  to the length of segment ? Explain or show your reasoning.

* 
* (From Unit 2, Lesson 1.)



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