



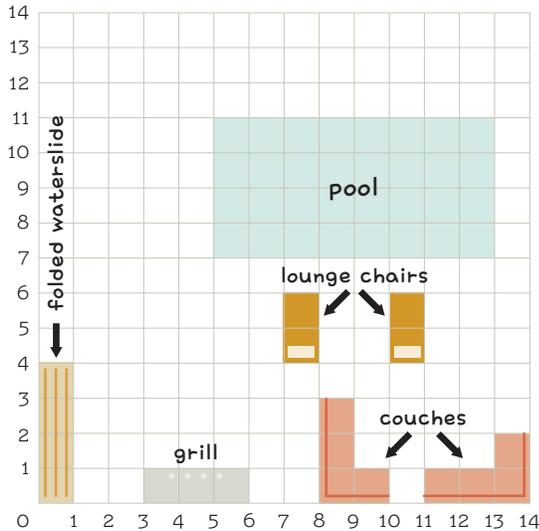
# Pedro's Pool Party

## Geometry Performance Task

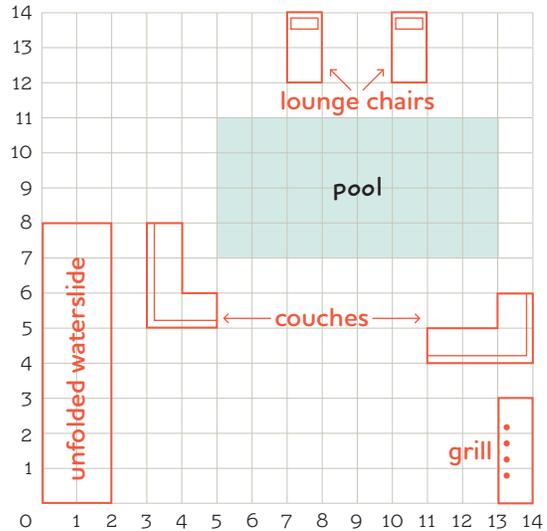
Pedro's family is planning a pool party for Pedro's graduation, and they need to rearrange their backyard to set up for the party. Below is the current layout of their yard and a space to create a new layout. Follow the directions below to help Pedro's family determine the best layout for the party.



**Current layout:**



**New layout:**



- Pedro wants to move the lounge chairs so that they are the same distance from the pool but on the other side of it. He wants to place the lounge chairs so that if you sit on them, you are facing the pool. Draw the lounge chairs on the new layout, and describe the transformation(s) that could map them from their old location to their new location.

The lounge chairs can be mapped from their old location to their new location by a rotation  $180^\circ$  clockwise around the point (9, 9).
- Pedro's dad bought a Super Speed Waterslide to set up on the lawn. The waterslide unfolds to be twice its current length and width. Draw the unfolded slide on the new layout. What transformation maps the original area covered by the slide to the new area? Are the original area and the new area similar? Explain how you know.

The original area covered by the slide can be mapped to the new area by a dilation with a scale factor of 2, centered at the origin. The original area and the new area are similar because you can map one onto the other with a dilation.
- Pedro wants to move the couches closer to the pool. Draw the couches on the new layout so that they are closer to the pool. What transformation(s) could map each couch from its old location to its new location? Are the two couches congruent? Explain how you know.

The left couch can be mapped from its old location to its new location by a translation 5 units left and 5 units up.  
The right couch can be mapped from its old location to its new location by a translation 4 units up. The couches are congruent figures because you can map one couch onto the other couch with a rotation and translation.
- Pedro's mom wants to move the grill farther from the waterslide. Use two different congruence transformations to move the grill. Draw the grill on the new layout, and describe the transformations that map the grill from its old location to its new location.

The grill can be mapped from its old location to its new location by a rotation  $90^\circ$  counterclockwise around the point (3,0) and a translation 11 units right.

