**Geometry Unit 1**
**Task 5: *In the Doghouse***
(Charles A. Dana Center)

Alicia is working on a computer animation project for her programming class. She needs to move a dog around the computer screen.

1. Alicia's first task is to move the black dog from a starting position in quadrant I to an ending position with the white dog in quadrant 3 as shown below. Describe, in words, what transformations Alicia will need to use to move the black dog.
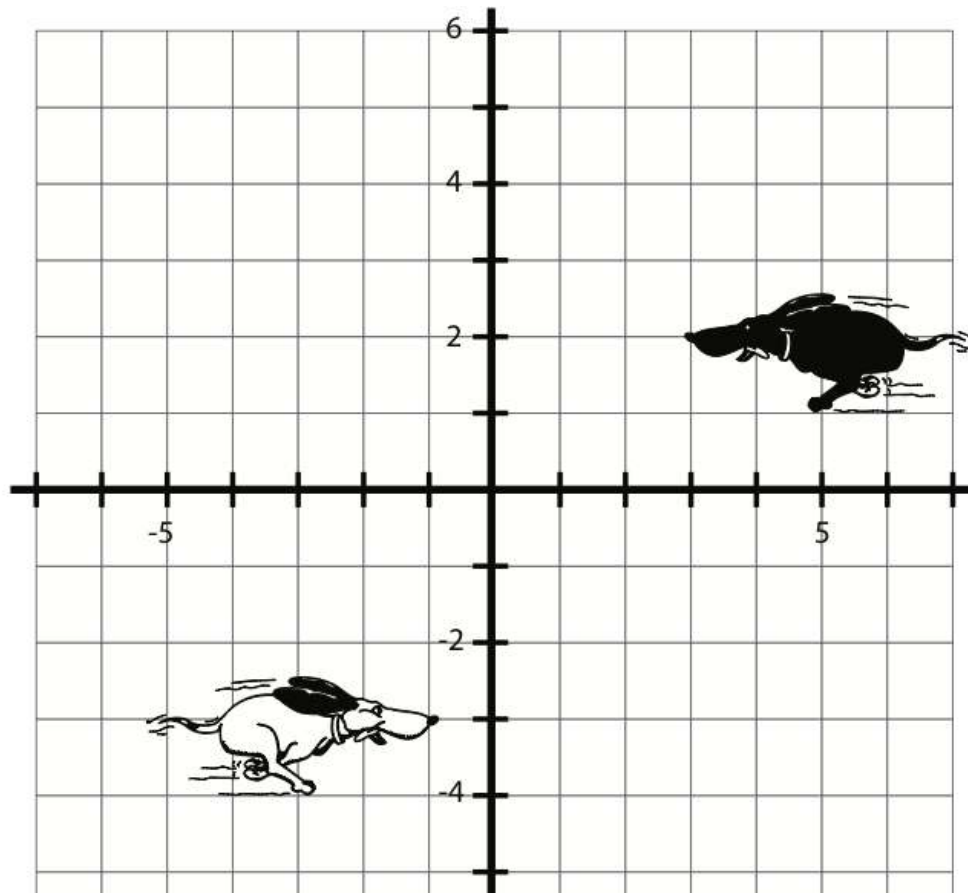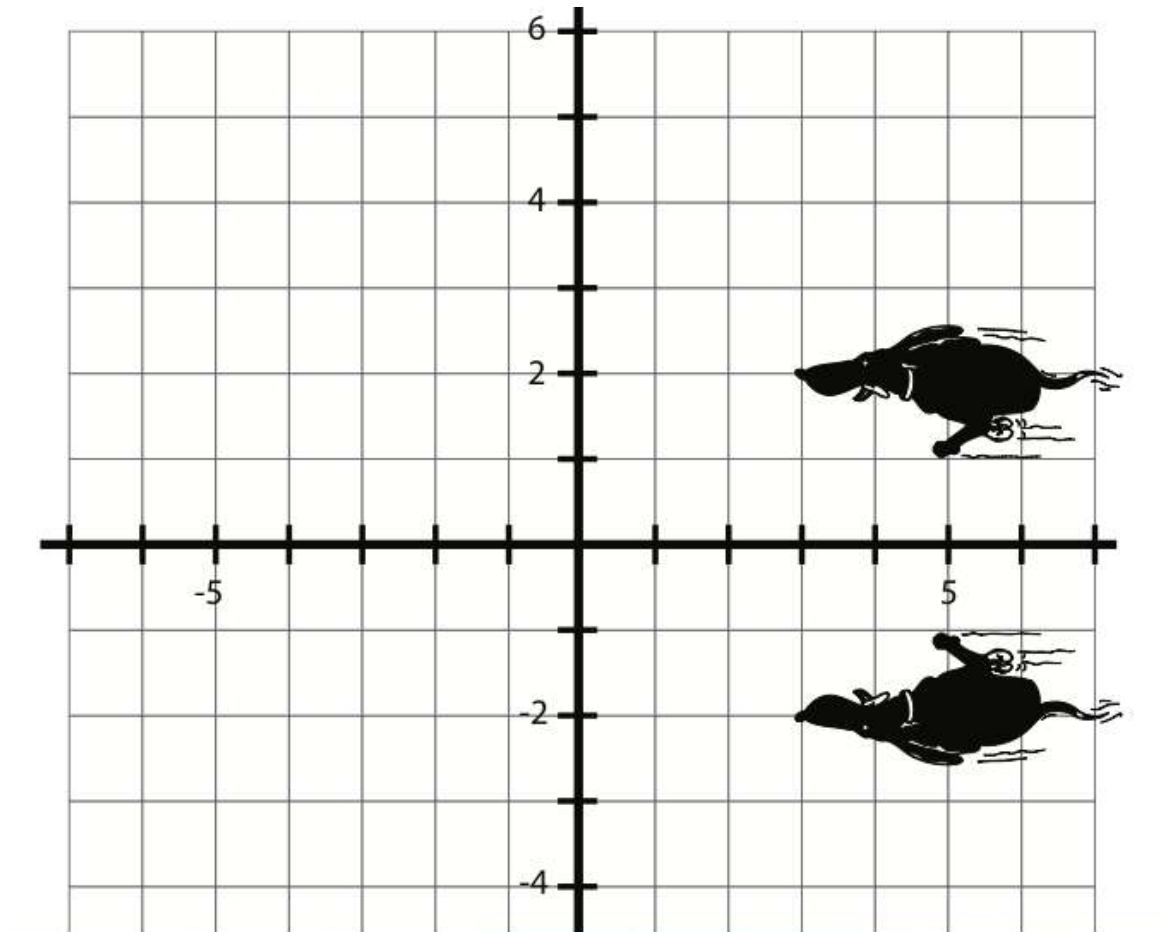

2. Help Alicia write an ordered pair rule that can be programmed into a computer to move the black dog in quadrant I to the location of the white dog in quadrant 3.

3. Now the white dog needs to move to his doghouse. What single transformation will move the dog so that his nose is at the center of the doghouse door?
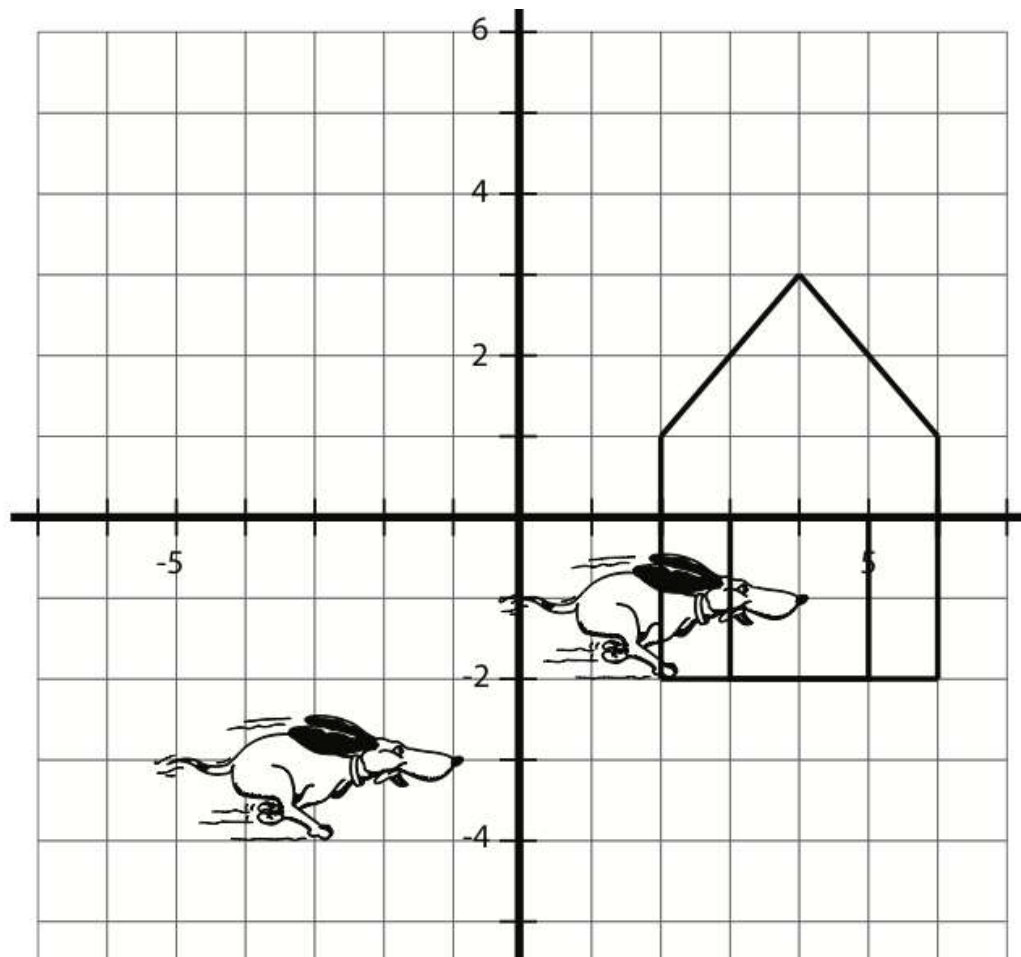
4. Finally, Alicia wants to show the dog doing a trick. She wants to show the dog rolling over. Write a transformation rule that shows the dog on his back.

5. What trick could the dog do that would require Alicia to rotate the dog on the plane 90° from his original position?

6. Make up your own trick and show the dog performing it using transformations. Write an ordered pair rule that would describe the transformations used.