Name _____ Date _____ Class _____

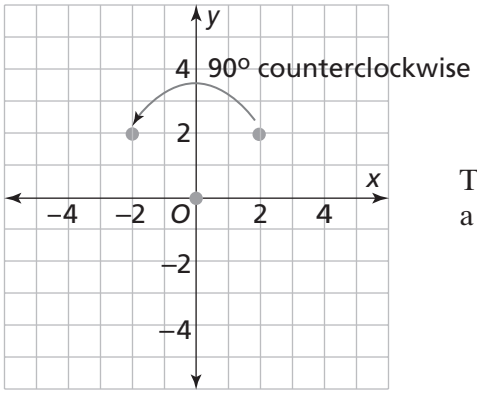
5ACE Exercise 16

Investigation 5

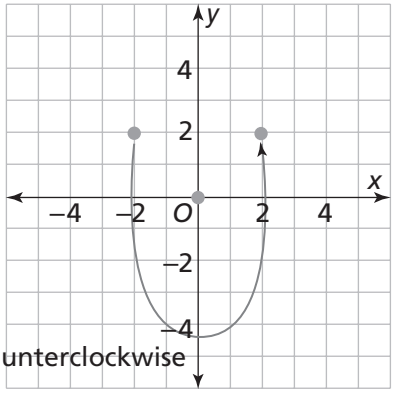
Kaleidoscopes, Hubcaps, and Mirrors

16. What single transformation is equivalent to a **90°(counterclockwise)** rotation about the origin followed by a **270°(counterclockwise)** rotation about the origin?

HINT A 90° counterclockwise rotation is a rotation that moves an object 90° from its origin to the left (i.e., counterclockwise moves images to the left on a graph and clockwise moves things to the right).



The new image of the point (2, 2) following a 90° rotation is (−2, 2).



A 270° counterclockwise rotation is a rotation that moves an object 270° degrees to the left. A 270° counterclockwise rotation is three 90° counterclockwise rotations.

(−2, 2) following a 90° counterclockwise rotation is (−2, −2)

(−2, −2) following a 90° counterclockwise rotation is (2, −2)

(2, −2) following a 90° counterclockwise rotation is (2, 2)

What single transformation is equivalent to a 90°(counterclockwise) rotation about the origin followed by a 270°(counterclockwise) rotation about the origin?