

TRANSFORMATION GOLF ACTIVITY

Teaching Notes

<p>Summary</p> <p>Participants play a game online that will improve their transformation visualization skills.</p>	<p>Goals</p> <ul style="list-style-type: none"> • Improve visualization of reflections, translations, and rotations. • Communicate mathematical ideas clearly. 	<p>Reproducibles</p> <p>Transformation Golf</p>
<p>Materials</p> <ul style="list-style-type: none"> • Colored pencils • internet access (for demonstration) 	<p>Technology</p> <p>This game is played at:</p> <p>http://www.mathsonline.co.uk/nonmembers/gamesroom/transform/golftrans.html</p> <p>If URL is not working directly, try an internet search for “transformation golf.”</p>	
<p>Common Core Student Standards in Mathematics</p> <p>8.G.1a Verify experimentally the properties of rotations, reflections, and translations: Lines are taken to lines, and line segments to line segments of the same length.</p> <p>8.G.1b Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure.</p> <p>8.G.1c Verify experimentally the properties of rotations, reflections, and translations: Parallel lines are taken to parallel lines.</p> <p>8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p>		

In this game, students perform translations, reflections, and rotations on a golf ball on a coordinate graph as they try to get it into the “hole” with a minimum number of moves. Because the minimum number of moves often requires rotations of 90° , the game provides motivation to practice visualizing this move.

One limitation of the game is that the transformations will move the ball, but leave the hole in place. Technically, a transformation is an action that maps all points of the plane to their images. Making this inaccuracy a discussion point may help students to better understand this fundamental concept.

TRANSFORMATION GOLF

Transformation Golf is an online game that requires understanding of translations, reflections and rotations. Play the game at:

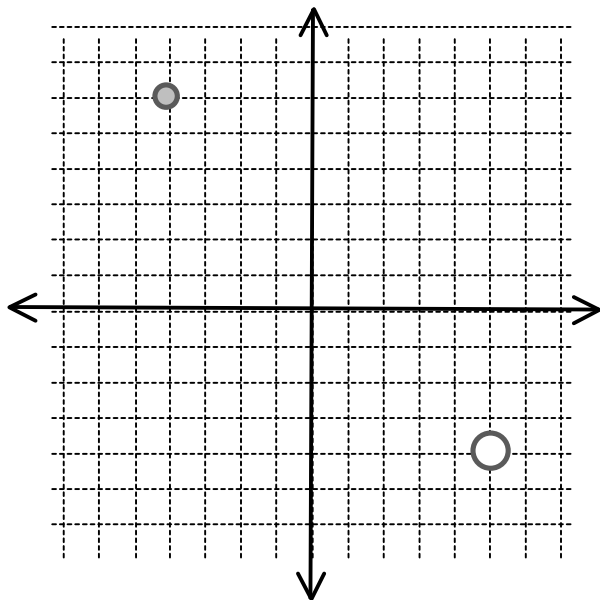
<http://www.mathsonline.co.uk/nonmembers/gamesroom/transform/golfrans.html>

What was your score for each hole?

1	2	3	4	5	6	7	8	9	=	Total
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Use the rules from the online game. Describe using proper language and coordinates, how you would apply transformations to move the ball ● into the hole ○.

Hole 10



Hole 11

