

New Jersey 7<sup>th</sup> Grade Geometry Standards: “Circling the Bases”  
National Baseball Hall of Fame and Museum

A. Geometric Properties

1. Understand and apply properties of polygons.
  - Quadrilaterals, including squares, rectangles, parallelograms, trapezoids, rhombi
  - Regular polygons
2. Understand and apply the concept of similarity.
  - Using proportions to find missing measures
  - Scale drawings
  - Models of 3D objects
3. Use logic and reasoning to make and support conjectures about geometric objects.

B. Transforming Shapes

1. Understand and apply transformations.
  - Finding the image, given the pre-image, and vice-versa
  - Sequence of transformations needed to map one figure onto another
  - Reflections, rotations, and translations result in images congruent to the pre-image
  - Dilations (stretching/shrinking) result in images similar to the pre-image

C. Coordinate Geometry

1. Use coordinates in four quadrants to represent geometric concepts.
2. Use a coordinate grid to model and quantify transformations (e.g., translate right 4 units).

D. Units of Measurement

1. Solve problems requiring calculations that involve different units of measurement within a measurement system (e.g., 4'3" plus 7'10" equals 12'1").
2. Select and use appropriate units and tools to measure quantities to the degree of precision needed in a particular problem-solving situation.
3. Recognize that all measurements of continuous quantities are approximations.

### E. Measuring Geometric Objects

1. Develop and apply strategies for finding perimeter and area.
  - Geometric figures made by combining triangles, rectangles and circles or parts of circles
  - Estimation of area using grids of various sizes
2. Recognize that the volume of a pyramid or cone is one-third of the volume of the prism or cylinder with the same base and height (e.g., use rice to compare volumes of figures with same base and height).