

# Geometry of a Circle

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ELC-3031

## COMMON CORE

- 4.G.A.1
  - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- 5.G.B.3
  - Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
- 5.G.B.4
  - Classify two-dimensional figures in a hierarchy based on properties.
- 7.G.A.1
  - Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
- 7.G.A.2
  - Draw construct, and describe geometrical figures and describe the relationships between them.
- 7.G.A.3
  - Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

- 7.G.B.4
  - Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
- 7.G.B.6
  - Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
- 8.G.A.1
  - Verify experimentally the properties of rotations, reflections, and translations
- 8.G.A.2
  - Understand congruence and similarity using physical models, transparencies, or geometry software.
- 8.G.A.3
  - Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
- 8.G.A.4
  - Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
- HSG-GMD.A.1
  - Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.