

Chapter 10: Area

Content Area: **Math**
Course(s): **Geometry CP, Geometry A, Geometry H**
Time Period: **Marking Period 4**
Length: **16 Days**
Status: **Published**

Unit Introduction

Standards

CCSS.Math.Content.HSG-C.B.5	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
CCSS.Math.Content.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.
CCSS.Math.Content.HSG-GPE.B.7	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.
CCSS.Math.Content.HSG-MG.A.1	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).
CCSS.Math.Content.HSG-SRT.D.9	Derive the formula $A = 1/2 ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.

Essential Questions

- How do perimeters and areas of similar polygons compare?
- How do you find the area of a polygon or find the circumference or area of a circle?

Content

- 10.1 - Area of Parallelograms and Triangles
- 10.2 - Area of Trapezoids, Rhombuses, and Kites
- 10.3 - Area of Regular Polygons
- 10.4 - Perimeters and Areas of Similar Figures
- 10.5 - Derive Area of Triangle Formula (Honors)
- 10.5 - Trigonometry and Area
- 10.7 - Areas of Circles and Sectors
- 10.7 *Concept Byte* Inscribed and Circumscribed Figures

Skills

- Find circumference and arc length
- Find the area of a regular polygon
- Find the area of a regular polygon using trigonometry
- Find the area of a trapezoid, rhombus, or kite
- Find the area of a triangle
- Find the area of a triangle using trigonometry
- Find the area of circles, sectors, and segments of circles
- Find the area of parallelograms and triangles
- Find the perimeters and areas of similar figures.
- Use relevant vocabulary, symbols and notation.