**Geometry – Unit 8 Plan**

**POLYGONS AND CIRCLES**

**Big Ideas**

Throughout this course we have extensively studied triangles and quadrilaterals. In this unit we will broaden our focus to include polygons with 5, 8, 10 and even 100 sides! We will study the angles of polygons and also develop a method to find the area of polygons. We will also investigate how the area and perimeter of a polygon change as the number of sides increase and use the knowledge we gain to understand and find the area and circumference of circles.

**Assessments**

Classwork

Homework

Mini-quizzes

Performance Task

Unit Test

**Key Learning Targets**

* Understand the relationship between the number of sides of a polygon and the sum of the interior angles of the polygon
* Understand the relationships between the number of sides of a regular polygon and the measures of an interior angle and exterior angle of the regular polygon
* Develop an algorithm to find the area of any regular polygon
* Find the area and circumference of a circle
* Develop methods to find the area of sectors and length of arcs
* Apply knowledge of area and circumference of circles to real world problems

**DAY 1**

Objectives:

* Understand the relationship between the number of sides of a polygon and the sum of the interior angles of the polygon
* Understand the relationships between the number of sides of a regular polygon and the measures of an interior angle and exterior angle of the regular polygon

Agenda

Section 8.1.2

Begin Section 8.1.3

Homework

8-17, 18, 20, 21

**DAY 2**

Objectives:

* Understand the relationship between the number of sides of a polygon and the sum of the interior angles of the polygon
* Understand the relationships between the number of sides of a regular polygon and the measures of an interior angle and exterior angle of the regular polygon

Agenda

Mini-quiz

Finish Section 8.1.3

Section 8.1.4

Homework

8-31, 32, 37, 40, 42

**DAY 3**

Objectives:

* Develop an algorithm to find the area of any regular polygon

Agenda

Section 8.1.5

Homework

8-49, 50, 55, 56, 60

**DAY 4**

Objectives:

* Develop an algorithm to find the area of any regular polygon

Agenda

Practice finding the area of a regular polygon

Performance Task

Homework

8-51, 52, 53, 54

**DAY 5**

Objectives:

* Find the area and circumference of a circle

Agenda:

Section 8.3.1

Begin Section 8.3.2

Homework:

8-85, 8-87, 89, 90

**Day 6**

Objectives:

* Develop methods to find the area of sectors and length of arcs
* Apply knowledge of area and circumference of circles to real world problems

Agenda

Miniquiz

Finish Section 8.3.2

Section 8.3.3

Homework

8-96, 97, 99, 100, 101

**DAY 7**

Objectives:

* Successful Assessment

Agenda

Review Unit 8 Concepts

Unit 8 Test

Homework

See you next class!