**Geometry – Unit 5 Plan**

**COMPLETING THE TRIANGLE TOOL KIT**

**Big Ideas**

We have investigated the powerful similarity and side ratio relationships in right triangles. In this unit, you will develop tools to complete your triangle toolkit so that you can find the missing angle measures and side lengths for any triangle, provided that enough information is given. You will then explore ways to choose an appropriate tool to solve new problems in unfamiliar contexts.

**Key Learning Targets**

* You will learn how to recognize and use special right triangles.
* How to use the inverse of the sine tangent and cosine function.
* How to apply trigonometric ratios to find missing measurements in right triangles.
* Using the Law of Sines to find missing measures of a triangle.
* How to determine when the information provided is not enough to determine a unique triangle

**DAY 1**

Objectives:

* Use trigonometric ratios to find unknown angle measures of a right triangle.
* Introduction/Review to the concept of “inverse.”
* Use Sine, Cosine and Tangent ratios to solve real world problems.

Agenda

 Section 5.1.3 Problems 5-21 through 5-23

Section 5.1.4 Problems 5-31 through 5-33

Homework 5-36 though 5-40

**DAY 2**

Objectives:

* Recognize the similarity rations in 30-60-90 and 45-45-90 triangles.
* Apply these ratios as a shortcut to finding missing side lengths.

Agenda

 **Quiz (Trig and Inverse Trig)**

Section 5.2.1, Problems 5-41 through 5-43

Homework 5-46, 5-47, 5-48, 5-50

**DAY 3**

Objectives:

* Recognize and use Pythagorean triples as another shortcut to finding missing triangle measures.
* Recognize and apply three new triangle shortcuts*.*

Agenda

 Section 5.2.2, Problems 5-51 through 5-53

 Spaghetti Graphs – Sin, Cos, Tan (if time)

Homework 5-56 through 5-60

**DAY 4**

Objectives:

* Review tools for finding missing sides and angles of triangles
* Develop a method to solve for missing sides and angles for a non-right triangle.

Agenda

Section 5.3.1, Problems 5-62, 5-64 and 5-65

Homework 5-67, 5-68, 5-69, 5-71, 5-72

**DAY 5**

Objectives:

* Review and process concepts learned.

Agenda

 Team Test/Performance Task

Homework CL5-126, CL5-127, CL5-129, CL5-130, CL5-131, CL5-133 and CL5-134

**Day 6**

Objectives:

* Develop the Law of Sines and use it to find missing side lengths and angles of non-right triangles.

Agenda

 Section 5.3.2, problems 5-74 through 5-76

Homework 5-79 thru 5-82 and 5-84

**DAY 7**

Objectives: Do great on the Unit Test!

Agenda

 INDIVIDUAL TEST

Homework: Not tonight!!!

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