**Key Terms:**
- Angle of Depression
- Pythagorean Triple
- Exterior Angle of a Polygon
- Angle of Elevation
- Sine
- Remote Interior Angles
- Auxiliary Line
- Tangent
- Cosine
- Trigonometric Ratios

**Material by Subject:**

8.1. Triangle Interior and Exterior Angles
- Be able to relate exterior angles to their remote interior angles.
- Given an exterior angle, be able to calculate the angles of an isosceles triangle.
- Given an exterior angle and one of the remote interior angles, be able to calculate the angles of any triangle.

8.2. Pythagorean Theorem
- Be able to state the Pythagorean Theorem
- Be able to recognize a Pythagorean triple and test a set of values to determine if it is a Pythagorean triple and or find the missing piece of a Pythagorean triple
- Be able to solve for the hypotenuse of a right triangle
- Be able to solve for the leg of a right triangle.
- Be able to make an accurate diagram for a word problem to solve for the missing value
- Be able to classify a triangle as right, acute, or obtuse based on its sides

8.3. Special Right Triangles
- Be familiar with the 45-45-90 Triangle Theorem
- Be able to recognize a 45-45-90 triangle given two of the angles
- Be able to solve for the hypotenuse or leg of a 45-45-90 triangle
- Be familiar with the 30-60-90 Triangle Theorem
- Be able to recognize a 30-60-90 triangle given two of the angles
- Be able to solve for the hypotenuse or leg of a 30-60-90 triangle
- Be able to apply these theorems to real-life situations (i.e. word problems)

8.4. Trigonometric Ratios
- Be familiar with the trigonometric ratios
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- Be able to determine which of the trig ratios you require to solve a problem
- Be able to determine the ratios for an angle in a right triangle
- Be familiar with the inverse trig ratios
- Understand the difference between inverse and reciprocal
- Be able to determine which of the inverse trig ratios you require to solve a problem
- Given an angle and one side, be able to determine another side of a triangle

8.5. Solving Problems Involving Right Triangles
- Be able to identify an angle of elevation or depression
- Be able to calculate a distance using the angle of elevation or depression
- Given a word problem, be able to draw a diagram and solve problems using the trigonometric ratios and their inverses.