**Name: Period: Date:**

**RIGHT TRIANGLE DEFINITION OF TRIGONOMETRIC FUNCTIONS**

**Guided Notes**

|  |
| --- |
| Warm-Up:  Find the missing side of the triangle.    Answer: √180 or 6√5  How did you solve this problem? Used Pythagorean Theorem |
| Triangle Basics     * Hypotenuse: the longest side of a right triangle; is opposite the right angle. * Opposite Leg: the side of the right triangle that is opposite the given angle. * Adjacent Leg: the side of the right triangle that is next to the given angle. |
| Label the correct sides of the triangle |
| Show formula for SOH CAH TOA  SOH: sin θ = opposite/hypotenuse  CAH: cos θ = adjacent/hypotenuse  TOA: tan θ = opposite/adjacent |
| How is this problem different from the warm-up problem?  Partner Share: How would you solve this problem? |
| What are YOUR ideas? |
| Let’s Try It! |
| Show Your Work! |
| The six trigonometric functions of θ are defined as follows.  Sine (θ) = sin θ = opp/hyp Cosecant (θ) = csc θ = hyp/opp  Cosine (θ) = cos θ = adj/hyp Secant (θ) = sec θ = hyp/adj  Tangent (θ) = tan θ = opp/adj Cotangent (θ) = cot θ = adj/opp |
| Example One)  Evaluate the Six Trigonometric Functions of the angle C shown in the right triangle.    sin C = opp/hyp = 6/10 = 3/5 csc C = hyp/opp = 5/3  cos C = adj/hyp = 8/10 = 4/5 sec C = hyp/adj = 5/4  tan C = opp/adj = 6/8 = 3/4 cot C = adj/opp = 4/3 |