Unit Summary: Trigonometric Functions

Be able to:

1. Use SOHCAHTOA, the cosine law, and the sine law to solve for side lengths and angles.
2. Recall the relationship between the reciprocal trigonometric functions and the primary trigonometric functions:

$csc θ=\frac{1}{sin θ}$ $secθ=\frac{1}{cosθ}$ $cotθ=\frac{1}{tanθ}$

1. Determine the third side of a triangle in the ambiguous case.
2. Identify the parts of the CAST rule; terminal arm, angle in standard position, related angle, coterminal arm.
3. Use the angle in standard position and length, r, to find the coordinates of a point at the end of a terminal arm 🡪 P(rcos θ, rsin θ).
4. Determine if a trigonometric expression will be positive or negative using the CAST rule.
5. Solve for angles in trigonometric equations using concepts related to the the CAST rule; ie; moving the related angle to get a second solution.
6. Determine sinθ, cosθ, and tanθ for a terminal arm that extends to the point P(x, y) on a Cartesian grid using:

  

1. Memorize and use the following three diagrams to determine exact

 values for trigonometric expressions:

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**30o**

**θ**

**(0,1)**

**(1,0)**

**x**

**P(cosθ, sinθ)**

**45o**

**2**

**60o**

****

**1**

****

**45o**

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1. Prove trigonometric identities using the reciprocal trigonometric functions and the following:

sin2θ + cos2θ = 1

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