**Grade Level**: 11-12 Grade

**Subject :** Precalculus **Team Members:** T. Knowles, T. Clement, J. Kurz, C.George

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| 1. Standard/ Description | 1. Evidence of Proficiency | 1. Prior Skills Needed | 1. Common Summative Assessment` | 1. When Taught? |
| Simplify and perform operations with exponents, radicals and rational functions | Simplify:    2. Solve: | 1. Exponent rules 2. Perform operations on fractions 3. Prime factoring to break down radicals | Chapter 1 Test  Chapter 3 test  Semester 1 final exam | August-  October |
| Solve and graph linear, absolute value and radical functions | Solve: | 1. Understand the x- and y- axis system and be able to plot points. 2. Calculate the slope of a line. 3. Graph a line using the slope-intercept method. 4. Absolute value as the distance from zero. 5. Understand that inequalities have a range of answers. | Chapter 1 test  Chapters 2 test  Semester 1 final exam | September  October |
| Solve and graph quadratic functions- using multiple methods | 1. Graph the quadratic function 2. Solve by ALL of the following methods: complete the square, factoring, and quadratic formula.   Identify the zeros, max and mins of a quadratic function. | 1. Shape of a quadratic function 2. Basic factoring skills. 3. Understand the x- and y- axis system and be able to plot points | Chapter 2 test  Chapter 3 test  Chapter 4 test  Semester 1 Final exam | October  November |
| Solve polynomial, exponential and logarithmic functions and identify properties (zeros, asymptotes, extrema) of each. | **Use the function**   1. Complete the square and find the vertex form of the function (2pts) 2. Graph the function, labeling all important points. (4pts) 3. Identify: (9pts)    1. Vertex    2. Is the vertex a max or a min?    3. Axis of Symmetry domain    4. Range    5. Intervals where the function is increasing    6. Intervals where the function is decreasing    7. X-intercept & Y-intercepts 4. List the translations that were performed on the function g(x)=x2 to achieve the graph of f(x) (2pts) 5. Identify all asymptotes and holes in | N/A | Chapter 2 test  Chapter 3 test  Chapter 4 test  Semester 1 Final Exam | October-December |
| Evaluate trig function values of any angle in both degrees and radians. | 1. Convert any angle between radians and degrees 2. Evaluate: | 1. Basic understanding of degree angle measure 2. 30-60-90 reference triangle 3. 45-45-90 reference triangle | Chapter 5 Test  Cum Test ch5-7  Semester 2 Final exam | January |
| Solve trigonometric equations | Find the value of each of the other five trigonometric functions for an angle, Ø given the information indicated.  Solve trig equations | * Basic understanding of degree angle measure * 30-60-90 reference triangle * 45-45-90 reference triangle | Chapter 6 test  Chapter 7 test  Cum Test ch5-7  Semester 2 Final Exam | January-February |
| Apply trig functions to model real world problems | 1. Find the radian measure of a central angle opposite an arc of 10 cm long on a circle of radius 3.5cm 2. Linear and angular velocity 3. Apply a trig function regression given data that follows a cyclic pattern 4. What are the amplitude and period of the function? | N/A | Chapter 6 test  Chapter 7 test  Cum Test ch5-7  Semester 2 Final Exam | February |
| Solve systems of equations graphically and by substitution, elimination, matrices/determinants. | Solve each of the following systems using ALL of the following methods:   * 1. Substitution   2. Elimination   3. Gauss-Jordan Elimination   4. Cramer’s Rule   5. Inverse Matrices   Ex:  Ex: | 1. Understand the x- and y- axis system and be able to plot points. 2. Be able to calculate a Least Common Multiple. 3. Distributive Property. 4. Replace a variable with an algebraic expression. | Chapter 2 test  Chapter 8 Test  Chapter 9 test  Semester 2 final Exam | September  March  April |