Cobb County School District

MATHEMATICS

Precalculus Teaching & Learning Framework

Semester 1			Semester 2			
Unit 1 6 weeks	**Unit 2** 6 weeks	**Unit 3** 6 weeks	**Unit 4** 5 weeks	**Unit 5** 6 weeks	**Unit 6** 5 weeks	**Unit 7** 2 weeks
Modeling with Rational and Piecewise-Defined Functions **PC.FGR.2**	**Modeling with Trigonometric Expressions and Functions** **PC.FGR.3**	**Applying Trigonometric Identities and Equations** **PC.AGR.4**	**Modeling with Conic Sections and Polar Equations** **PC.GSR.5**	**Modeling with Vector Quantities** **PC.AGR.6**	**Modeling with Sequences and Series** **PC.PAR.7**	**Culminating Capstone Unit**
PC.FGR.2.1 (Graph piecewise-defined functions) **PC.FGR.2.2** (Characteristics of piecewise) **PC.FGR.2.3** (Limit of piecewise) **PC.FGR.2.4** (Divide polynomials) **PC.FGR.2.5** (Graph rational functions) **PC.FGR.2.6** (Behavior of rational functions at asymptotes) **PC.FGR.2.7** (Limits of rational functions) **PC.FGR.2.8** (Solve rational equations) **PC.FGR.2.9** (Partial fraction decomposition)	**PC.FGR.3.1** (Radians) **PC.FGR.3.2** (Build unit circle) **PC.FGR.3.3** (Define all trig ratios in terms of x, y, and r) **PC.FGR.3.4** (Derive trig identities) **PC.FGR.3.5** (Determine values of trig functions) **PC.FGR.3.6** (Graph and write equations of trig functions) **PC.FGR.3.7** (Classify trig functions as odd or even) **PC.FGR.3.8** (Use inverse functions)	**PC.AGR.4.1** (Simplify trig expressions and verify trig identities) **PC.AGR.4.2** (Use sum, difference, double-angle, and half-angle formulas) **PC.AGR.4.3** (Solve trig equations) **PC.AGR.4.4** (Law of Sines and Law of Cosines) **PC.AGR.4.5** (Area of an oblique triangle)	**PC.GSR.5.1** (Identify and graph conic sections) **PC.GSR.5.2** (Convert conic sections from general to standard form) **PC.GSR.5.3** (Define polar coordinates) **PC.GSR.5.4** (Classify special polar equations) **PC.GSR.5.5** (Graph equations in polar plane)	**PC.AGR.6.1** (Vectors as directed line segments) **PC.AGR.6.2** (Add and subtract vectors) **PC.AGR.6.3** (Add and subtract vectors using different methods) **PC.AGR.6.4** (Solve contextual vector problems) **PC.AGR.6.5** (Sketch parametric curves) **PC.AGR.6.6** (Apply parametric equations)	**PC.PAR.7.1** (Demonstrate sequences are functions) **PC.PAR.7.2** (Represent sequences multiple ways) **PC.PAR.7.3** (Limit of a sequence) **PC.PAR.7.4** (Series) **PC.PAR.7.5** (Describe behavior of series) **PC.PAR.7.6** (Sum formula of finite geometric series) **PC.PAR.7.7** (Sum formula of infinite geometric series)	**All Standards**

Units contain tasks that depend upon the concepts addressed in earlier units. Mathematical standards are interwoven and should be addressed throughout the year in as many different units and tasks as possible in order to stress the natural connections that exist among mathematical topics.

The Framework for Statistical Reasoning, Mathematical Modeling Framework, and the K-12 Mathematical Practices should be taught throughout the units.

Key for Course Standards: FGR: Functional & Graphical Reasoning; AGR: Algebraic & Geometric Reasoning; GSR: Geometric & Spatial Reasoning; PAR: Patterning & Algebraic Reasoning, MP: Mathematical Practices, MM: Mathematical Modeling

Cobb County School District

Precalculus Teaching & Learning Framework

BLOCK

Unit 1 3 weeks	Unit 2 3 weeks	Unit 3 3 weeks	Unit 4 2.5 weeks	Unit 5 3 weeks	Unit 6 2.5 weeks	Unit 7 1 week
Modeling with Rational and Piecewise-Defined Functions **PC.FGR.2**	**Modeling with Trigonometric Expressions and Functions** **PC.FGR.3**	**Applying Trigonometric Identities and Equations** **PC.AGR.4**	**Modeling with Conic Sections and Polar Equations** **PC.GSR.5**	**Modeling with Vector Quantities** **PC.AGR.6**	**Modeling with Sequences and Series** **PC.PAR.7**	**Culminating Capstone Unit**
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