

PRE CALCULUS A 2017

<i>What can algebra possibly have to tell me about the world? The Heart of Algebra</i>				
<i>Unit 1(Prerequisite Chapter) - Fundamental Concepts of Algebra</i>				
Week 1	P1	Algebraic Expressions & Mathematical Models	Model	
	P2	Exponents and Scientific Notation	Exponential Notation	
	P3	Radicals and Rational Exponents	Discriminant	
	P4	Polynomials	Degree	
Week 2			Rationalization	
	P5	Factoring Polynomials	Conjugates	Prerequisite
	P6	Rationals Expressions	Extraneous	
	P7	Equations	Perfect Square	
	P9	Inequalities	Standard Form	
		Domain/Range		
Week 3	P9	Inequalities	Input/Output	
	P8	Modeling with Equations	Interval Notation	

<i>How can understanding the concept of a function give me a new perspective of the world?</i>				
<i>Unit 2(Chapter 1) - Functions and Graphs</i>		Rate of Change		
Week 4	1.1	Graphs and Graphing Utilities	Quadrants	
	1.2	Basics of Functions	Cartisian Coordinates	
	1.3	Functions	Solution/Zeros/Root	
Week 5			Relation	PC.F.1
	1.3	Functions	Functions	PC.F.2
	1.4	Linear Functions	Piecewise	PC.F.4
	1.5	Parallel and Perpendicular	Maximum/Minimum	PC.F.6
	1.6	Transformations of Functions	Scatter plot	PC.QPR.1
Week 6			regression	TR.CO.1
	1.6	Transformations of Functions	Transformations	TR.CO.3
	1.7	Combination of Functions	Even/Odd Symmetry	
	1.8	Inverse Functions	Composition	
	1.9	Circles	Inverses	

<i>Are we surrounded by evidence that proves that the world is profoundly mathematical?</i>				
<i>Unit 3(Chapter 2) - Polynomial and radical Functions</i>		Complex Conjugates	TR.CO.1	
Week 7	2.1	Complex Numbers	Complex Number	PC.PNC.2
	2.2	Quadratic Functions	Axis Of Symmetry	PC.PNC.3
Week 8			End Behavior	PC.F.7
	2.3	Polynomial Functions and Graphs	Multiplicity	PC.QPR.2
	2.4	Dividing Polynomials	Asymptotes	PC.QPR.3
	2.5	Zeros of Polynomials	Limits	PC.QPR.4
	2.6	Rational Functions	Variation	

<i>Can these functions enable us to predict the future or rediscover the past?</i>				
<i>Unit 4(Chapter 3) - Exponential and Logarithmic Functions</i>		Natural Base		
Week 9	2.7	Polynomial and Rational Inequalities	Euler's Number	
	3.1	Exponential Functions	Logarithmic	
Week 10			Growth/Decay	PC.EL.1
	3.2	Logarithmic Functions	Condense/Expand	PC.EL.2
	3.3	Properties of Logarithms		PC.EL.3
	3.4	Exponential and Logarithmic Equations		
3.4	Exponential and Logarithmic Equations			
Week 11	3.5	Exponential Growth and Decay		

Week 12 Finals

PRE CALCULUS B 2017

<i>Can we model phenomena that occurs in cycles?</i>			
<i>Unit 1 (Chapter 4)-Trigonometric Functions</i>		Vocabulary	TR.PF.7
Week 1	4.1 Angles and Radian Measure	Radians/Degrees	TR.UC.1
	4.2 Trigonometric Functions: The Unit Circle	Coterminal	TR.UC.2
	4.3 Right Triangle Trigonometry	Initial/Terminal Side	TR.UC.3
Week 2	4.4 Trig Functions of any Angle	Reference Angles	TR.G.1
	4.8 Applications of Trig Functions	Circular Arc	TR.G.3
		Trig Ratios	TR.PF.2
Week 3	4.5 Graphs of Sine/Cosine	Angle of Depression/Elevation	TR.PF.3
	4.6 Graphs of other Trig Functions	Amplitude/Periodic	TR.PF.4
		Phase Shift	

<i>Will we learn how to understand our Periodic World?</i>			
<i>Unit 2(Chapter 5) - Analytic Trigonometry</i>		Verify	
Week 4	4.7 Inverse Trig Functions	Identities	PC.F.5
	5.1 Verifying Trig Identities		TR.PF.4
Week 5	5.1 Verifying Trig Identities		TR.PF.5
	5.3 Double Angle and Half Angle		TR.PF.6
Week 6	5.2 Sum and Difference Formulas		TR.PF.7
	5.3 Double Angle and Half Angle		TR.ID.1
Week 7	5.4 Product to Sum & Sum to Product		TR.ID.2
	5.5 Trig Equations		

<i>Can we solve any triangle?</i>			
<i>Unit 3(Chapter 6) - The Law of Cosines and The Law of Sines</i>			TR.G.1
Week 8	6.1 Law of Sines	Oblique	TR.G.4
			TR.G.5
	6.2 Law of Cosines		TR.G.6

<i>Can Certain curves occur naturally throughout the universe?</i>			
<i>Unit 4(Chapter 9) - Conic Sections and Analytic Geometry</i>		minor/major axis	TR.CO.2
Week 9	9.1 The Ellipse	foci	TR.CO.4
		directrix	TR.CO.5
		latus rectum	
		vertices	
9.2 The Hyperbola	co-vertices		

<i>Is Motion made up of a sequence of still configurations?</i>			
<i>Unit 5 - Intro to Calculus</i>			
Week 10	11.1 Finding Limits Using Tables and Graphs	minor/major axis	PC.F.7
	11.2 Finding Limits Using Properties of Limits	derivative	
	11.3 Limits and Continuity	tangent	
	11.4 Intro to Derivatives	continuous	
Week 11	11.1 Finding Limits Using Tables and Graphs	discontinuity	
		Instantaneous Velocity	
	11.2 Finding Limits Using Properties of Limits	derivative	
	11.3 Limits and Continuity	tangent	
11.4 Intro to Derivatives	continuous		
		discontinuity	

Week 12 Finals