

ADVANCED MATH PACING

Revised July 2010

Lesson	Objective	Days	Level
Unit on Set Theory		9	
Thinking Mathematically Student Workbook by Blitzer			
	Test Prerequisite Skills Test	1	
2-1	Define and Use Basic Set Concepts	1	D/T
2-2	Apply the concepts of Subsets	1	D/T
2-3	Understand and use Venn Diagrams and Set Operations	1	D/T
2-4	Perform Set Operations and use Venn Diagrams with Three Sets	1	D/T
5-5	Recognize subsets and properties of Real Numbers	1	D/T
	Quiz, Review and Test	3	
Chapter 1: Linear Relations and Functions			
		14	
1-1	Identify and evaluate Relations and Functions	3	D/T
1-2	Perform operations with functions and find the composite of a function	1	D/T
1-3	Graphing and Analyzing Families of Linear Functions	1	D
1-4	Writing Linear Equations	1	M/A
	Review and Quiz	2	
1-5	Writing Equations of Parallel and Perpendicular Lines	1	M/A
1-6	Modeling Real World Data with Linear Functions(Enrichment)		M/A
1-7	Identify and graph Piecewise Functions	2	I/D
1-8	Graphing Linear Inequalities	1	M/A
	Review and Test	2	
Chapter 2 : Systems of Linear Equations and Inequalities			
		14	
2-1	Solving Systems of Equations in Two Variables		
	Day 1 : Graphing, Consistent and Inconsistent	1	M/A
	Day 2 : Solve System algebraically	1	M/A
2-2	Solving Systems of Equations in Three Variables	2	I/D
2-3	Add, Subtract and Multiply Matrices – no calculators	2	I/D
	Review and Quiz	2	
2-4	Enrichment – Transformation Matrices and Modeling Motion with Matrices		I
2-5	Evaluate Determinants and Find Multiplicative Inverses of Matrices	2	I/D
2-6	Solving Systems of Linear Inequalities	2	I/D
2-7	Enrichment – Linear Programming		I
	Review and Test	2	
	End of Quarter 1		

Chapter 3: The Nature of Graphs			
			22
3-1	Determine Symmetry using Coordinate Graphs	2	D
3-2	Identify and Sketch Families of Graphs	3	D/T
3-3	Graph and Solve Nonlinear Inequalities	2	D/T
	Review and Quiz	2	
3-4	Determine and Graph Inverse Functions and Relations	1	D
3-5	Determine and Identify Continuity and End Behavior	2	I/D
3-5B	Enrichment – Gap Discontinuities		I
3-6	Determine and Identify Critical Points and Extrema	2	I/D
	Review and Quiz	2	
3-7	Graph Rational Functions and Identify Asymptotes	2	D
3-8	Solve Problems using Direct, Inverse, and Joint Variation	2	D/T
	Review and Test	2	
Chapter 4: Polynomial and Rational Functions			
			15
4-1	Determine the roots of Polynomial Functions	2	D/T
4-2	Solve Quadratic Equations and Determine Nature of Roots	2	D/T
4-3	Apply the Remainder and Factor Theorems	1	D
4-4	Identify roots using the Rational Root Theorem	1	D
	Review and Quiz	2	
4-5	Locating Zeros of a Polynomial Function	1	D
4-6	Solve Rational Equations and Inequalities	2	D
4-7	Solve Radical Equations and Inequalities	2	D
4-8	Enrichment Modeling Real-World Data with Polynomial Functions		I
	Review, Quizzes, Test	2	---
Chapter 5: The Trigonometric Functions-Semester Exam may fall in this chapter			
			17
5-1	Identify Angles and Convert Degree Measure	2	M/A
5-2	Find the Trigonometric Ratios in Right Triangles	1	M/A
5-3	Find and Identify the six Trigonometric Functions on the Unit Circle	2	D/T
5-4	Applying Trigonometric Functions	1	D/T
	Review and Quiz	2	
5-5	Solving Right Triangles	1	M/A
5-6	Apply the Law of Sines and Find the Area of triangle	2	D/T
5-7	Solve triangles using the Ambiguous Case for the Law of Sines	1	I
5-8	Solve triangles using the Law of Cosines	1	D/T
	Review and Test and Review for Semester Exam depending where falls	4	---

**SEMESTER 1 EXAM
EMPT TEST**

Chapter 6: Graphs of Trigonometric Functions		15	
6-1	Convert Angle measurement using radians and degrees. Find the arc length and area of a sector.	2	D/T
6-2	Find Linear and Angular Velocity	1	I/D
6-3	Graphing Sine and cosine Functions	2	D/T
6-4	Find and Apply Amplitude and Period of Sine and Cosine Functions	1	D/T
	Review and Quiz	2	
6-5	Find and Apply Translations of Sine and Cosine Functions	2	I/D
6-6	Enrichment: Modeling Data with Sinusoidal Functions		I
6-7	Graphing Other Trigonometric Functions	1	I/D
6-8	Graph and Evaluate Trigonometric Inverses	2	I/D
	Review, Quizzes, Test	2	---
Chapter 7: Trigonometric Identities and Equations		17	
7-1	Identify and Apply Basic Trigonometric Identities	2	I/D
7-2	Verifying Trigonometric Identities	3	I/D
7-3	Apply Sum and Difference Identities	2	I/D
	Review and Quiz	2	
7-4	Apply Double-Angle and Half-Angle Identities	2	I/D
7-5	Solving Trigonometric Equations	1	I/D
7-6	Find the Normal Form of a Linear Equation	2	D
7-7	Find the Distance from a Point to a Line	1	D
	Review, Quizzes, Test	2	---
Chapter 11: Exponential and Logarithmic Functions		13	
11-1	Use the properties of Real Exponents	2	D/T
11-2	Graph and Solve Exponential Functions	1	D/T
11-3	Use and apply the Number e in equations	1	D/T
	Review and Quiz	2	
11-4	Evaluate, Solve and Graph Logarithmic Functions	2	D/T
11-5	Evaluate and Solve using Common Logarithms	2	D/T
11-6	Evaluate and Solve using Natural Logarithms	1	D/T
11-7	Enrichment - Modeling Data with Exponential and Logarithmic Functions		I
	Review, Quizzes, Test	2	---

Chapter 10: Conics			
			13
10-1	Use analytic methods to prove geometric relationships	1	I/D
	Enrichment # 28-32		
10-2	Use and determine the standard and general forms of Circles	2	D
10-3	Use and determine the standard and general forms of Ellipses	3	I/D
10-4	Use and determine the standard and general forms of Hyperbolas	2	I/D
10-5	Use and determine the standard and general forms of Parabolas	2	I/D
10-6	Identify conic section from general form (optional)Find the Rectangular and Parametric Forms of Conic Sections	1	I
	Review and Test	2	

Chapter 12: Sequences and Series			
			14
12-1	Find the n th term of Arithmetic Sequences and Evaluate the Series	2	D/T
12-2	Find the n th term of Geometric Sequences and Evaluate the Series	2	D/T
12-3	Find the limit of an Infinite Sequences and Evaluate the Series	2	I/D
12-3B	Enrichment – Graphing Calculator Exploration, repeating fractions		I
	Semester 2 may end here		
12-4	Determine if a Series is Convergent or Divergent	1	I/D
	Review and Quiz	2	
12-5	Use Sigma Notation and the n -th term	2	D/T
12-6	Use the Binomial Theorem	1	I/D
	Review and Test	2	

SEMESTER 2 EXAM

Chapter 14: Statistics and Data Analysis(If time permits)			
			11
14-1	Draw and use Bar Graphs, Histograms and Frequency Distributions	2	I/D
14-2	Find Measures of Central Tendency using stem and leaf plots or frequency distribution tables	2	I/D
14-3	Find and Compare Measures of Variability	2	I/D
	Review and Quiz	2	
14-4	Use The Normal Distribution Curve	2	I/D
14-4B	Enrichment – The Standard Normal Curve		I
14-5	Find and use the Standard error of Mean	1	I
	Review and Test	2	