

PETAL Algebra I Course Outline

SEMESTER 1

Text: Prentice Hall Mathematics – Algebra 1

WEEK	TEXTBOOK	SUPPLEMENTS	SOL
1	1-1 Using Variables 1-2 Exponents and Order of Operations 1-3 Exploring Real Numbers	TI-83: Students can discover/verify order of operations using worksheet in Activity Packet.	A.2 A.3 A.10
	1-4 Adding Real Numbers 1-5 Subtracting Real Numbers 1-6 Multiplying and Dividing Real Numbers	Have students discover the “rules” by supplying real-life examples. Application: Matrices	A.2 A.3 A.4 A.10
2	1-7 The Distributive Property 1-8 Properties of Real Numbers	Manipulative Activity: Model the distributive property. TI-83: Have students determine for which operations commutative and associative properties hold true.	A.2 A.3
	2-1 Solving One-Step Equations 2-2 Solving Two-Step Equations 2-3 Solving Multi-Step Equations	Manipulative Activity: “Hands-On Equations” Manipulative set from Algebra Packet Activity: BACKTRACKING from Algebra Packet TI-83: Verify solutions	A.1 A.3
3	2-4 Equations with Variables on Both Sides	Manipulative Activity: “Hands-On Equations” Manipulative set from Algebra Packet	A.1 A.3
	2-5 Equations and Problem Solving 2-6 Formulas	Compare solving equations to solving formulas.	A.1 A.2 A.3

4	3-1 Inequalities and Their Graphs 3-2 Solving Inequalities Using Addition and Subtraction 3-3 Solving Inequalities Using Multiplication and Division	Compare solving equations to solving inequalities. TI-83: Graph solution set to compare with students' graph.	A.1 A.2 A.3
	3-4 Solving Multi-Step Inequalities <i>OPTIONAL:</i> 3-5 <i>Compound Inequalities</i>	TI-83: Graph solution set to compare with students' graph.	A.1 A.3
5	4-1 Ratio and Proportion 4-2 Proportions and Similar Figures 4-3 Proportions and Percent Equations <i>OPTIONAL:</i> 4-4 <i>Percent of Change</i>	Activity: Use base ten tiles to demonstrate percent. Use proportions to solve percent problems.	A.1 A.2 A.3
	2-7 Using Measures of Central Tendency Box-and-Whisker Plots (p. 740) <i>Note: Although this unit contains applications of solving equations, it may be moved elsewhere as deemed appropriate by the teacher.</i>	TI-83: Find mean, median, Q_1 , and Q_3 of a set of data using the STAT menu	A.17
6	5-1 Relating Graphs to Events 5-2 Relations and Functions	Gizmos: www.explorellearning.com Activity: www.shodor.org	A.5 A.15
	5-3 Functions Rules, Tables, and Graphs 5-4 Writing a Function Rule	TI-83: Students can verify their function rule by checking points in the TABLE	A.5 A.6 A.15
7	5-5 Direct Variation <i>OPTIONAL:</i> 5-6 <i>Describing Number Patterns</i>	TI-83: Use TABLE to introduce concept of constant rate of change	A.1 A.5 A.18
	6-1 Rate of Change and Slope 6-2 Slope-Intercept Form	TI-83: Graph lines and verify slope using the TABLE Gizmos: www.explorellearning.com	A.5 A.6 A.7 A.8

8	6-3 Standard Form 6-4 Point-Slope Form and Writing Linear Equations	TI-83: Verify equations either by graphing or using TABLE Gizmos: www.explorellearning.com	A.5 A.6 A.7 A.8
	<i>OPTIONAL:</i> 6-5 Parallel and Perpendicular Lines 6-6 Scatter Plots and Equations of Lines	TI-83: Find Linear Regression and use TABLE to make predictions. Gizmos: www.explorellearning.com	A.5 A.6 A.7 A.8 A.16
9	<i>REVIEW</i>		
	<i>EXAMS</i>		
10	7-1 Solving Systems by Graphing 7-2 Solving Systems by Substitution	TI-83: Solve systems using TABLE, graph, or CALC menu	A.6 A.9
	7-3 Solving Systems by Elimination 7-4 Applications of Linear Systems		A.9
11	7-5 Linear Inequalities 7-6 System of Linear Inequalities	TI-83: Verify students' graphs	A.1 A.3 A.6 A.9
	8-1 Zero and Negative Exponents 8-2 Scientific Notation 8-3 Multiplication Properties of Exponents	Activity: Laws of Exponents (Algebra Packet)	A.10
12	8-4 More Multiplication Properties of Exponents 8-5 Division Properties of Exponents	Activity: Laws of Exponents (Algebra Packet)	A.10
	9-1 Adding and Subtracting Polynomials 9-2 Multiplying and Factoring 9-3 Multiplying Binomials	Manipulative Activity: Model adding, subtracting, and multiplying polynomials.	A.2 A.11
13	9-4 Multiplying Special Cases 9-5 Factoring Trinomials: $x^2 + bx + c$	Manipulative Activity: Model factoring using Algebra tiles	A.2 A.11 A.12

13 cont'd	9-8 Factoring by Grouping 9-6 Factoring Trinomials: $ax^2 + bx + c$ 9-7 Factoring Special Cases		A.2 A.11 A.12
14	(Review all types of Factoring)		A.2 A.11 A.12
	10-1 Exploring Quadratic Graphs 10-2 Quadratic Functions	TI-83: Explore families of parabolas.	A.15
15	10-3 Finding and Estimating Square Roots 10-4 Solving Quadratic Equations	TI-83: Graph parabolas and look for x-intercepts	A.2 A.13 A.14 A.15
	10-5 Factoring to Solve Quadratic Equations	Explore: How do the solutions compare to the factors?	A.12 A.14 A.15
16	<i>OPTIONAL</i> 10-6 Completing the Square 10-7 Using the Quadratic Formula	Manipulative Activity: Use Algebra tiles to model completing the square	A.13 A.14 A.15
	Review for SOL TESTS		
APPROXIMATE WEEK OF SOL TESTS			
17	11-1 Simplifying Radicals 11-2 The Pythagorean Theorem 11-3 The Distance and Midpoint Formulas		A.1 A.2 A.3 A.13
	11-4 Operations with Radical Expressions 11-5 Solving Radical Equations		A.3 A.13
18	<i>REVIEW</i>		
	<i>EXAMS</i>		