Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
1) Rational Numbers and Irrational Numbers	N	Word "irrational" is used, but the definition is not given. Rational numbers and its definition is not given.
2) Classifying Real Numbers	N	
3) Commutative and Associative Properties	Y	
4) Inverse, Identify, and Zero-Product Properties	N	
5) Distributive Property	Y	
6) Properties of Equality	N	
7) Solving Multi-Step Equations	Y	Does not use fractional coefficients in IM or fractions answers.
8) Variables on Both Sides of the Equation	Y	Does not use fractional coefficients in IM or fractional answers
9) Defining Variables in Word Problems	N	
10) Solving Equations with More than One Variable	N	
11) Rewriting Equations with Integer Coefficients	N	
12) One Solutions, No Solutions, or All Real Numbers	N	
13) One- and Two-Step Absolute Value Equations	N	
14) Graphing Solutions Using the Midpoint	N	
15) Writing Absolute Value Equations	N	
16) Multi-Step Absolute Value Equations	N	
17) Absolute Value Equations with No Solution and All Real Numbers	N	
18) Inequality Symbols and Wording	N	Not explicitly taught. Students are asked to draw on a numberline.
19) Solving Inequalities	N	
20) Multiplying Inequalities by Negatives	N	
21) Compound Inequalities with Two Symbols	N	

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
22) Absolute Value Inequalities	N	
23) Absolute Value Inequalities with No Solution and All Real Numbers	N	
24) Equivalent Ratios	N	
25) Solving Proportions	N	
26) Single Unit Conversions	Y	
27) Multiple Unit Conversions	Y	Legacy uses approximations when converting from Imperial to Metric, though acknowledges the difference in solutions. PSM has more exact measurements. PSM does not teach to have the denominator as one due to more exact conversions so solutions are consistent.
28) Compound Unit Conversions	N	
29) Measures of Center	N	
30) Measures of Spread	N	
31) Box Plots	N	
32) Dot Plots and Bar Graphs	N	
33) Histograms	N	
34) The Shape of Data Sets	N	
35) Standard Deviation	N	
36) Outliers	N	
37) Comparing Data Sets	N	
38) The Coordinate Plane	Y	
39) Relations	N	
40) Functions	N	
41) The Vertical Line Test	N	
42) Function Notation	N	
43) Independent and Dependent Variables	N	
44) Using a Function Rule	N	
45) The Intercepts	N	Finding the y-intercept by substituting zero for x is taught with slope intercept form. Finding the x-intercept by substituting zero for y is not explicitly

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
		taught. Nor is graphing by only using Standard Form and the intercepts.
46) Slope	Y	
47) Graphing from the Slope and a Point	Y	
48) Representing the Linear Parent Function	N	
49) Translations of the Linear Parent Function	N	That verbiage is not used, but there are several graphs that are only vertically translated and represented on the same graph. But not taught as a translation of a parent graph.
50) Calculating Slope	Y	
51) Rate of Change	N	The phrase "rate of change" is not emphasized. Word problems do not ask for rate of change and the word problems are for discrete functions only though graphed as continuous.
52) Point-Slope Form	N	
53) Point-Slope Form from Context	N	
54) Slope-Intercept Form	Y	Word problem examples are actually of discrete functions, not continuous lines.
55) Slope-Intercept Form from a Graph	Y	
56) Slope-Intercept Form Given Slope and a Point	Y	
57) Slope-Intercept Form Given Two Points	Y	
58) Applications of Linear Equations	N	
59) Graphing an Equation in Standard Form	N	Students graph in slope intercept and then change to standard form.
60) Writing an Equation in Standard Form	Y	Only from slope intercept. Not from point slope
61) Comparing Forms of Linear Equations	N	
62) Horizontal Lines	Y	
63) Vertical Lines	Y	
64) Parallel Lines	Y	
65) Parallel Lines from Equations	Y	
66) Parallel Line through a Point	N	Not taught in the IM and no example provided

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
67) Perpendicular Lines	Y	
68) Perpendicular Lines from Equations	Y	
69) Perpendicular Lines through a Point	N	Not taught in the IM and no example provided
70) Special Perpendicular Lines	N	
71) Linear Correlations	N	
72) Graphing Scatter Plots	N	
73) Calculating Line of Best Fit	N	
74) Drawing Conclusions Using the Trend Line	N	
75) Interval Notation	N	
76) Continuous or Discrete Functions	N	
77) Functions in Various Forms	N	
78) Arithmetic Sequences	N	
79) Systems and Their Solutions	Y	
80) Systems of Equations in Slope-Intercept Form	Y	
81) Systems in a Variety of Forms	Y	Legacy shows solving by graphing (slope intercept only), substitution (standard and slope intercept) and eliminator (standard and elimination)
82) Solutions to Linear Inequalities	Y	Students are given the points to test the linear inequality to determine if the statement is true or false and then shade accordingly. Students are not asked if a coordinate is a solution and why.
83) Graphing Linear Inequalities	Y	
84) Graphing Systems of Linear Inequalities	N	
85) Substitution when Both Equations Have an Isolated Variable	Y	
86) Substitution: One Variable Isolated	Y	
87) Substitution: No Variables Isolated	Y	
88) Elimination: Opposite Coefficients	Y	
89) Elimination: Multiplying by -1	Y	

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
90) Elimination: Linear Combinations	Y	
91) Efficiently Solving Systems	N	
92) Extending Solutions (use solution values to solve new problems)	N	
93) How Much or How Many (linear systems)	N	This could be seen as a similar concept as coins, but Legacy is specific to coins and not a general of how much or how many.
94) Coins (linear systems)	Y	
95) Wind and Water (linear systems)	N	
96) Geometry Formulas (linear systems)	N	
97) Break-Even Problems (linear systems)	N	
98) Digit Problems (linear systems)	N	
99) Writing a Linear Inequality in One Variable	N	Only on a single number line for one or two examples using only the variable x. PSM uses word problems. The two topics were not of the same depth.
100) Writing Systems of Inequalities	N	
101) Rule 1: Product of Powers	Y	
102) Rules 2 and 3: Power Rules for Exponents	Y	
103) More Than One Exponent Rule	N	
104) Formulas with Exponents	N	
105) Classifying Polynomials in Standard Form	N	The vocabulary polynomial, trinomial, binomial and monomial are used in the IM, but students are not asked to classify the polynomial. Nor are they given how to classify based off of the degree.
106) The Sum or Difference of Polynomial Expressions	Y	Quadratics (focus) or linear only. Legacy does not ask to add linear to quadratic. PSM examples are quadratic to quadratic and quadratic to linear.
107) Solving for an Unknown Coefficient	N	
108) Multiplying Monomials	N	Binomial multiplication only
109) Multiplying Binomials 1	Y	
110) Multiplying Binomials 2 -using the split distributive property	N	

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
111) Multiplying Binomials and Trinomials	N	Binomial multiplication only
112) Multiplying Trinomials	N	
113) Solving for an Unknown Coefficient when Multiplying	N	
114) Greatest Common Monomial Factors	N	
115) Factoring Out the GCF	Y	Only one example in paragraph form.
116) Finding a Common Binomial	N	
117) Factor by Grouping	N	
118) Factors and Products	N	
119) Sign Patterns in Polynomials	Y	PSM and Legacy do not teach this concept the same way. PSM is more specific and has a lesson section on this topic where Legacy does mention it when factoring.
120) Difference of Two Squares	Y	Legacy does not show examples of a difference of squares with coefficients other than one, or show examples of two variables. PSM uses rational coefficients, GCF, and coefficients not equal to 1 in the examples.
121) Perfect Square Trinomials	N	Not explicitly called perfect square trinomials, though there is an example that factors a perfect square, but it is not named.
122) Methods of Factoring - Modeling Factors	Y	
123) Factoring $x^2 + bx + c$ by ac-Grouping	N	
124) Factoring Expressions with a does not equal 1	Y	
125) Factoring Completely	Y	Students are not asked to factor the GCF when it is a scalar. There is one example of factoring the GCF with a cubic.
126) The Zero-Product Property and Factoring	N	
127) Solving Polynomial Equations Equal to Zero	Y	
128) Quadratic Equations Not Equal to Zero	Y	
129) Extraneous Solutions	N	

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
130) Writing Quadratic Equations Symbolically	N	
131) Solving Quadratic Equation Word Problems	N	
132) Components of Parabolas	N	
133) Graphing Parabolas	Y	Students are taught to use t-tables only and then graph points.
134) Using Technology to Solve Quadratic Functions	N	
135) Domain and Range of Quadratic Functions	N	
136) Quadratic Inequalities	N	
137) Graphing Quadratic Inequalities	N	
138) Parabolas in Vertex Form	N	
139) Vertical and Horizontal Translations of Parabolas	N	
140) Reflections and Dilations of Parabolas	N	
141) Combining Transformations of Parabolas	N	
142) Negative Exponents	Y	
143) Writing Expressions with Positive Exponents	Y	
144) Distributing Exponents across a Monomial Expression	N	
145) Quotient Property for Exponents	Y	
146) Using All the Exponent Rules	N	
147) Radical Expressions with Variables	N	
148) Simplifying Radicals when the Index Is 3	N	
149) Addition and Subtraction of Radical Expressions	N	
150) Rational Exponent Equations with Monomials	N	Legacy does teach rational exponents and the relationship to radicals, but does not put it in equation form.

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1
151) Equations with Exponents	N	
152) Equations with Radicals	N	
153) Graphs of Exponential Functions	N	
154) Domain and Range of Exponential Functions	N	
155) Common Ratios for Exponential Functions	N	
156) Components of the Growth/Decay Formula	N	
157) Solving with the Growth/Decay Formula	N	
158) Completing the Square	N	
159) The Quadratic Formula and the Discriminant	N	
160) Graphing Linear and Quadratic Systems (equations and inequalities)	N	

Legacy coverage to PSM is about 50 out of 160 topics, which is about 31%.

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Algebra 1: Principles of Secondary Mathematics Lesson Sub-Topic	Legacy Y/N*	Clarification of what is taught in Legacy Algebra 1

There are topics taught by Legacy that are not taught by PSM

Legacy	PSM Y/N	Clarification
1) Significant digits	N	
2) Scientific notation	N	Scientific notation *is used* in PSM and assumes previous knowledge. This is an 8th grade standard that will be covered in new version of material for that level.
3) Square roots of quadratic trinomials	N	This will be covered in new version of Algebra 2.
4) Dividing polynomials	N	This will be covered in new version of Algebra 2.
5) Graphing a Circle and and Ellipes	N	This will be covered in new version of Algebra 2.
6) Graphing a Parabola and Hyperbola	N	Parabolas are graphed and transformed in PSM, however hyperbolas are not. This will be covered in new version of Algebra 2.

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