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| **Grade 8 Algebra**  |
| **SES Standard** | **State Standard** |
| **Strand**: Foundations for Algebra |  |
| * Variables and expressions
* Evaluating expressions and Order of Operations
* Real Numbers and the Number Line
* Properties of Real Numbers
* Adding and Subtracting Real Numbers
* Multiplying and Dividing Real Numbers
* The Distributive Property
* Introduction to Functions
* Patterns, Equations and Graphs
 | M:N&O:8:1, M:N&O:8:2, M:N&O:8:4, M:N&O:8:6, M:N&O:8:7, M:N&O:8:8, M:N&O:HS:1, M:N&O:HS:2, |
| **Strand:** Solving Equations |  |
| * Solving One-Step, Two-Step, and Multi-Step Equations
* Solving Equations with Variables on Both Sides
* Literal Equations and Formulas
* Ratios, Rates, and Conversions
* Solving Proportions
* Similar Figures
* Percents
* Change Expressed as Percent
 | M:N&O:8:4 , M:N&O:8:6, M:N&O:7:8, M:F&A:8 :3, M:F&A:8 :4, M:PRP:8 :1 |
| **Strand**: Solving Inequalities |  |
| * Inequalities and their graphs
* Solving Inequalities
* Solving Multi-Step Inequalities
* Compound Inequalities
* Absolute Value Equations and Inequalities
 | M:N&O:8:1, M:N&O:7:8, M:PRP:8 :1 |
| **Strand:** Introduction to Functions |  |
| * Using Graphs to Relate Two Quantities
* Patterns and Linear Functions
* Patterns and Nonlinear Functions
* Graphing a Function Rule
* Writing a Function Rule
* Sequences and Functions
 | M:F&A:8 :1, M:F&A:8 :2, M:F&A:HS:1 |
| **Strand:** Linear Functions |  |
| * Rate of Change and Slope
* Direct Variation
* Slope-Intercept Form
* Point-Slope Form
* Standard Form
* Parallel and Perpendicular Lines
* Graphing Absolute Value Functions
 | M:F&A:8 :1, M:F&A:8 :2, M:F&A:8 :3, M:F&A:8 :4, M:PRP:8 :1, M:CCR:8:2 |
| **Strand:** Systems of Equations and Inequalities |  |
| * Solving Systems using Graphing, Substitution and Elimination
* Application of Linear Systems
* Linear Inequalities
* Systems of Linear Inequalities
 | M:F&A:8 :1, M:F&A:8 :2, M:F&A:8 :3, M:F&A:8 :4, M:PRP:8 :1, M:PRP:8:2, M:CCR:8:3 |
| **Strand:** Exponents and Exponential Functions |  |
| * Zero and Negative Exponents
* Scientific Notation
* Multiplication Properties of Exponents
* Division Properties of Exponents
* Exponential Functions
* Exponential Growth and Decay
 | M:N&O:8:2, M:N&O:8:4, M:N&O:8:6, M:F&A:8:3, M:N&O:HS:4 |
| **Strand:** Polynomials and Factoring |  |
| * Adding and Subtracting Polynomials
* Multiplying and Factoring Polynomials
* Multiplying Binomials
* Multiplying Special Cases
* Factoring Simple Cases and Special Cases of Quadratics
* Factoring by Grouping
 | M:F&A:HS:2, M:F&A:H:3, M:F&A:H:4 |
| **Strand:** Quadratic Functions an Equations |  |
| * Quadratics, Graphs and Their Properties
* Quadratic Functions
* Solving Quadratic Equations
* Factoring to Solve Quadratic Equations
* Completing the Square
* Quadratic Formula and the Discriminant
* Linear, Quadratic and Exponential Models
* Systems of Linear and Quadratic Equations
 | M:F&A:H:3, M:F&A:H:4 |
| **Strand:** Radical Expressions and Equations |  |
| * Pythagorean Theorem
* Simplifying Radicals
* Operations with Radical Expressions
* Solving Radical Equations
* Graphing Square Root Functions
* Trigonometric Ratios
 | M:N&O:8:1, M:F&A:8:3, M:F&A:HS:3, M:F&A:8:4, M:F&A:HS:4 |