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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 |