

Mathematics

Intro to Algebra II

Data Analysis & Probability	Algebra	Geometry	Exploring the Skills and Strategies Underlying Mathematics
Collect, organize and interpret data to predict and draw conclusions	Analysis of patterns, relations and functions involving variables.	Analyze the properties and relationships of shapes.	Process objectives learned in the context of increasingly complex mathematical and real-world problems
1. Demonstrate an understanding of theoretical and conditional probability. 2. Calculate odds 3. Calculate expected value. 4. Demonstrate an understanding of permutations, combinations and counting principles 5. Demonstrate an understanding of central tendencies, measure of dispersion and applications and linear regressions.	6. Identify properties of real numbers and use them and the correct order of operation to simplify and evaluate expressions (with and without technology) 7. Perform operations on functions including function composition emphasizing function notation. 8. Factor trinomials in the form 9. Solve single-step and multistep equations and inequalities in one variable 10. Solve systems of linear equations/inequalities using various methods, including elimination, substitution and graphing 11. Write linear equations in standard form, slope-intercept form and point slope form when given two points, a point and the slope, or the graph of the equation. 12. Write and evaluate algebraic expressions, equations and inequalities. 13. Graph a linear equation using a table of values, x and y-intercepts, or slope-intercept form 14. Simplify radical expressions/equations 15. Use properties of exponents to evaluate and simplify expressions and solve equations 16. Add, subtract, multiply and divide expressions containing radicals to solve equations. 17. Rationalize denominators containing radicals and find the simplest common denominator. 18. Solve quadratic equations by factoring, quadratic formula, graphing and algebraically. 19. Add, subtract and multiply matrices 20. Use addition, subtraction and multiplication of matrices to solve real world problems. 21. Determine domain and range for a given function. 22. Perform operations on polynomials 23. Simplify and solve rational expressions and equations	24. Find the distance and midpoint between two points in the coordinate plane 25. Use sine, cosine and tangent ratios to find the sides or angles of right triangles 26. Use law of sines and cosines in problem solving.	27. Apply problem solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real world problems. 28. Use a variety of strategies to set up and solve increasingly complex problems. 29. Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly. 30. Make appropriate use of estimation and mental mathematics in computations and to determine the reasonableness of solution or increasingly complex problems. 31. Make mathematical connections among concepts, across disciplines and in everyday experiences. 32. Demonstrate the appropriate role of technology in mathematics. 33. Apply previously learned algebraic and geometric concepts to more advanced problems.

