BERKSHIRE SCHOOL: Mathematics Skills and Techniques

Course	Skills and Techniques
Algebra I	Operations with integers and fractions Combining like terms, numerical and variable Operational Order Exponents Multi-step equations (variables on both sides)
Geometry	Solving simple and complex equations Combining like terms Exponent Rules Solving basic linear and quadratic equations Operations and rules for fractions and rational expressions
Adv. Geometry	Same as Geometry, plus: Factoring and multiplying polynomials Index Laws Simplifying and operations with rational expressions Simultaneous equations
Algebra II	Complex operational order Multi-step equations and word problems Linear functions-graphing and writing equations General knowledge to quadratics Coordinate graphing-domain and range Exponent properties and combining like terms
Adv. Algebra II/Trig	Operations with fractions and rational expressions Solving and graphing linear and quadratic functions Factoring polynomials and quadratic formula Writing equations of a line Solving two variable systems (basic) Exponent properties and combining like terms Right triangle trig (basic)

Course	Skills and Techniques
Precalculus	Factoring all levels of polynomials Linear graphing/Forms of linear equations Simultaneous linear equations Log properties Right Triangle Trig/Law of Sines/Cosines
Calculus	Factoring quadratics Understanding basic logs and facility with log rules Reducing and manipulating fractions/basic rational expressions Functions- operations, recognition, composition Finding special right triangles (without the unit circle) Basic trig relationships/identities Recognizing parent functions Exponent properties (fractional and negative) Graphic understanding- intercepts, zeros, end behavior, increasing, decreasing, constant Calculator facility with graphing
Statistics	Complex operational order Multi-step equations and word problems Linear functions-graphing and writing equations General knowledge to quadratics Coordinate graphing-domain and range Exponent properties and combining like terms Mean, median and mode
Discrete Math	Basic understanding of mean, median and mode Enter, manipulate and solve matrices (TI-nspire) Radical and exponent applications Enter and manipulate combinations and permutations (TI-nspire) Prepared to use video recording device of choice