**Liberal Arts 2**

**Learning Goals**

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| **#** | **Learning Goal** | **Standard(s)** |
| L201 | Derive the equation of a parabola and a circle on a coordinate plane and use coordinates to prove simple geometric theorems algebraically. | G-GPE.1.1, G-GPE.1.2, G-GPE.2.4, G-GPE.2.5 |
| L202 | Rewrite simple rational expressions using various methods | A-APR.4.6 |
| L203 | Construct and compare linear, quadratic and exponential models and interpret parameters in context. | F-LE.1.1, F-LE.1.2,  F-LE.1.3, F-LE.2.5 |
| L204 | Choose and produce an equivalent form of an expression by using the structure to identify ways to rewrite it. | A-SSE.1.2, A-SSE.2.3  A-APR.3.4 |
| L205 | Solve quadratic equations in one variable. Solve systems of linear and quadratic equations. | A-REI.2.4, A-REI.3.7 |
| L206 | Derive the formula for the sum of a finite geometric series (when the common ratio is not 1) and use the formula to solve problems. | A-SSE.2.4 |
| L207 | Explain whether the sum or product of two rational and/or irrational numbers would be rational or irrational. | N-RN.2.3 |
| L208 | Graph and write equivalent forms of functions by hand and using technology, and compare functions in different representations. | A-APR.2.2, A-APR.2.3,  F-IF.3.7, F-IF.3.8,  F-IF.3.9 |
| L209 | Derive solutions from quadratic functions, including complex, and perform operations on complex numbers. | N-CN.1.1, N-CN.1.2,  N-CN.3.7 |
| L210 | Construct, compare and interpret exponential and logarithmic models, utilizing rational exponents and radicals. | F-LE.1.4, N-RN.1.1,  N-RN.1.2 |
| L211 | Understand independence and conditional probability and use the rules of probability to compute and interpret data in a probability model. | S-CP.1.4, S-CP.1.5 |
| L212 | Use surveys, experiments and observational studies to summarize data, make inferences and justify statistical conclusions | S-IC.1.1, S-IC.1.2, S-IC.2.3, S-IC.2.4, S-IC.2.5, S-IC.2.6 |