**Virginia Mathematics Standards of Learning Tracking Log**

**Bridging from Algebra, Functions & Data Analysis to Algebra II**

The skills and strategies introduced in the Mathematics Standards of Learning vertically articulate from kindergarten to high school and many standards build in complexity within K-12 instruction. Teachers can use this tracker to help determine which standards students have had sufficient exposure and experience during the previous school year to make decisions regarding when and how experience with new standards might occur in the current school year.

|  | **Addressed during previous school year** | **Not Addressed/ Insufficient Exposure during previous school year** | **Comments** |
| --- | --- | --- | --- |
| AFDA.1 The student will investigate and analyze linear, quadratic, exponential, and logarithmic function families and their characteristics. Key concepts include |  |  |  |
| a) domain and range; |  |  |  |
| b) intervals on which a function is increasing or decreasing; |  |  |  |
| c) absolute maxima and minima; |  |  |  |
| d) zeros; |  |  |  |
| e) intercepts; |  |  |  |
| f) values of a function for elements in its domain; |  |  |  |
| g) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs; |  |  |  |
| h) end behavior; and |  |  |  |
| I ) vertical and horizontal asymptotes. |  |  |  |
| AFDA.2 The student will use knowledge of transformations to write an equation, given the graph of a linear, quadratic, exponential, and logarithmic function. |  |  |  |
| AFDA.3 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems using models of linear, quadratic, and exponential functions. |  |  |  |
| AFDA.4 The student will use multiple representations of functions for analysis, interpretation, and prediction. |  |  |  |
| AFDA.5 The student will determine optimal values in problem situations by identifying constraints and using linear programming techniques. |  |  |  |
| AFDA.6 The student will calculate probabilities. Key concepts include |  |  |  |
| 1. conditional probability; |  |  |  |
| 1. dependent and independent events; |  |  |  |
| 1. mutually exclusive events |  |  |  |
| 1. counting techniques (permutations and combinations); and |  |  |  |
| 1. Law of Large Numbers. |  |  |  |
| AFDA.7 The student will |  |  |  |
| 1. identify and describe properties of a normal distribution; |  |  |  |
| 1. interpret and compare *z*-scores for normally distributed data; and |  |  |  |
| 1. apply properties of normal distributions to determine probabilities associated with areas under the standard normal curve |  |  |  |
| AFDA.8 The student will design and conduct an experiment/survey. Key concepts include |  |  |  |
| 1. sample size |  |  |  |
| 1. sampling technique; |  |  |  |
| 1. controlling sources of bias and experimental error; |  |  |  |
| 1. data collection; and |  |  |  |
| 1. data analysis and reporting |  |  |  |