Berlin Brothersvalley School District
Berlin High School
Algebra II
2nd Nine Weeks

Big Idea(s) for____ nine weeks	**Concept(s) of _____ nine weeks**	**Competencies of _____ nine weeks**	**Essential Questions for _____ nine weeks**
Mathematical relationships among numbers can be represented, compared, and graphed	**Students will know…** ● Graphs of linear functions ● Equations of lines ● Best fit lines ● Formulas for sequences ● Matrices and their applications	**Students will be able to…** ● Graph various equations ● Read Linear Graphs ● Calculate lines of best fits ● Write and apply recursive and explicit formulas for sequences ● Store data in Matrices ● Perform operations on Matrices ● Apply transformations using Matrices	How can expressions and equations be used to quantify, solve, model and/or analyze mathematical situations?
Topics Linear Functions Graph Y=MX+b Identify linear combinations Graph Ax+By=C Find the equation of a line Find the line of best fit	**Approx # of weeks - % of time** 6 weeks	**PA Standards** **CC.2.2.HS.C.2** Graph and analyze functions and use their properties to make connections between the different representations **CC.2.2.HS.C.3**	**Assessment Anchors & Eligible Content** A1.2.1.1.1 A1.2.1.1.2, A1.2.1.1.3 A1.2.1.2.1 A1.2.1.2.2 A1.2.2.1.1

Create recursive and explicit formulas for sequences Step Functions		Write functions or sequences that model relationships between two quantities. **CC.2.2.HS.C.5** Construct and compare linear, quadratic, and exponential models to solve problems. **CC.2.2.HS.C.6** Interpret functions in terms of the situations they model. **CC.2.4.HS.B.3** Analyze linear models to make interpretations based on the data. **CC.2.4.HS.B.5** Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.	A2.1.3.1.4 A2.1.3.2.1 A2.1.3.2.2 A2.2.1.1.1 A2.2.1.1.2, A2.2.1.1.3 A1.2.2.1.4, A2.1.3.1.3, A2.1.3.1.4 A2.1.3.2.1
Topics Storing data in Matrices Matrix Addition Matrix Multiplication Transformations using Matrices Perpendicular lines	**Approx # of weeks - % of time** 3 weeks	**PA Standards** **CC.2.2.HS.D.7** Create and graph equations or inequalities to describe numbers or relationships.	**Assessment Anchors & Eligible Content** A1.1.2.1.1 A1.1.2.1.2 A1.1.2.1.3 A1.1.2.2.1 A1.1.2.2.2 A1.1.3.1.1

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Standards Legend: Essential Important Supplementary