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**Math Weekly Lesson Preparation Guide**

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| **Teacher Name:** **Gabriel Preston, Cuthbert Afram, Martin Asare** | **Grade:** 11 |
| **Week of:**  October 14th – 18th October | **Unit: Chapter 2 & 3** **Lesson Numbers:** 9-1 |

*Purpose: The Weekly Lesson Preparation Guide is to provide a structure that encourages teachers to think through and internalize the daily/weekly instructional expectations.*

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| ***Planning Questions*** | **Lesson 2-9**  **Monday 10/14** | **Lesson 2-9**  **Tuesday 10/15** | **Lesson 2-9**  **Wednesday 10/16** | **Lesson 3-1**  **Thursday 10/17** | **Lesson 3-1**  **Friday 10/18** |
| 1. Which specific Tennessee **standard(s)** are being addressed in this lesson? What is the focus of this lesson? What will the lesson **objective** be for each day? | **A2.A.CED.A.2** Create equations and inequalities in two variables to represent relationships between quantities and use them to solve problems in a real-world context.  Graph equations and inequalities with two variables on coordinate axes with labels and scales and use the graphs to make predictions.  **A2.N.Q.A.1** Use units as a way to understand real-world problems.  Choose and interpret the scale and the origin in graphs and data displays.  **Objectives**  Students will solve absolute value equations.  Students will solve absolute value inequalities. | | | .**A2.F.IF.A.1** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.  **A2.F.IF.B.4** Graph functions expressed algebraically and show key features of the graph by hand and using technology.  **Objectives**  Students will graph quadratic functions.  Students will find and interpret the average rate of change of quadratic functions given symbolically, in tables, and in graphs | |
| 1. How will this learning prepare students for success on the unit assessment? How does it **coherently connect** to previous lessons and build to future ones? | This lesson will help students the ability to graph absolute value equation and absolute value inequalities. Student will need the verbal description of the key features of the function they are graphing | | | This lesson will help students the ability to graph quadratic functions. Student will need the verbal description of the key features of the function they are graphing. | |
| 1. **Complete all tasks** included in the lesson and review the sample/anticipated student responses.   For each task consider:   * What are the multiple solution paths students might take to solve this problem? * What is the purpose of this task? Specifically, which aspect(s) of rigor are being addressed (conceptual understanding, procedural fluency, and/or application)? How does this differ based on the solution path   Given this purpose, what key concepts and vocabulary might students need to understand to access the task? | Students will work together on activities displayed on the smart board from the Reveal Lessons identifying domain, range and analyzing the graph of functions. (CFU)  Students will work examples analyzing and identifying functions graphically, determining if they are one-to-one from both tables and graph  Students will identify functions that are discreet and continuously explain why from problems on the smartboard  Students will use the structure of set- builder and interval notation to write the domain and range of functions that are both continuous and discontinuous | | | Students will look at samples of different graphs, discuss with a partner and determine if the graph is symmetric and the type of symmetry.  Students will practice identifying types of symmetry, odd/even functions by looking at the graph as well as algebraically,  Students will review the definition of linear then students will use stated assumptions and definitions to classify functions as linear or nonlinear. Upon completion students will explain how the intercepts of a graph correspond to its graph or table. (Problems displayed on board, students will discuss with a partner/small group) | |
| 1. What **specific tasks/problems** will you use to reveal understanding of the grade-level standard(s)? (refer to the [Instructional Focus Document](https://scsk12.sharepoint.com/:b:/s/CIMathLinks/EYpqxmc9g99Ok0WoLv0Xk-IBoDr700BY_sWN5u2zqSEUdA?e=lzzd50) Evidence of Learning Statements) | Identification of all evident key features when provided a table, graph or information imbedded in a real-world problem and be able to interpret their meaning.  Graph the function, identify key features of the graph, and interpret the meaning of the key features in  relationship to the context of the problem,  Create a real-world context that would generate a function with the provided attributes, given key features | | | Identification of all evident key features when provided a table, graph or information imbedded in a real-world problem and be able to interpret their meaning.  Graph the function, identify key features of the graph, and interpret the meaning of the key features in  relationship to the context of the problem,  Create a real-world context that would generate a function with the provided attributes, given key features | |
| 1. In what ways will students use the [Standards for Mathematical Practice](https://www.tn.gov/content/dam/tn/education/standards/math/std_math_standards_mathematical_practice.pdf) to **develop mathematical understandings**? | Completing the lessons students will be able to make sense of the problem after understanding the key features in turn being able to look for and make use of structures. They should be able to compare functions and construct viable arguments and model a real-world situation with mathematics. | | | Completing the lessons students will be able to make sense of the problem after understanding the key features in turn being able to look for and make use of structures. They should be able to compare functions and construct viable arguments and model a real-world situation with mathematics. | |
| 1. What mathematical mistakes or misconceptions do you anticipate? What **supports** will you build into the lesson to ensure all students have the opportunity to experience success in this grade level work? (refer to the [Instructional Focus Document's](https://scsk12.sharepoint.com/:b:/s/CIMathLinks/EYpqxmc9g99Ok0WoLv0Xk-IBoDr700BY_sWN5u2zqSEUdA?e=lzzd50)) | Students may struggle with understanding the vocabulary, students may still misunderstand the difference dash line and solid lines when graphing inequalities. | | | Students may struggle with understanding the vocabulary, students may still misunderstand the difference between the domain and range values when looking at the graph of a functions. Most of these mistakes come from switching the coordinates for the x and y. | |
| 1. What **probing questions** might you ask to encourage perseverance or push students to new understanding? What questions might you ask to elicit prior content knowledge, connect to students’ experiences, and set up the task to ensure students understand the task without over-scaffolding or funneling? | How can analyzing a function help you understand the situation it models  What is the absolute value?  How do you graph on the coordinate plane/  How can you identify absolute vale and what do they represent? | | | How can analyzing a function help you understand the situation it models?  What is the coordinate plane?  How do you graph on the coordinate plane/  How can you identify the domain and range and what do they represent? | |
| 1. What **technology tools, mathematical and/or concrete manipulatives** will be necessary to support mathematical understanding? | Calculator is necessary besides the interactive smartboard and online book to give demonstrations of the graphing of functions expected outcomes. (students probably will not have 1 to 1 device this early in the school year) | | | Calculator is necessary besides the interactive smartboard and online book to give demonstrations of the graphing of functions expected outcomes. (students probably will not have 1 to 1 device this early in the school year) | |