

**Campbell County Schools**  
**Algebra IA**  
**2<sup>nd</sup> Nine Weeks**

**Mathematical Practices:**

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

**Common Core Coding Explanation:**

**Conceptual Category    Cluster    Standard #**

**A.SSE.A.1**

**Domains Examples:**

SSE- Seeing Structure in Expressions  
 REI- Reasoning with Equations & Inequalities  
 CED- Creating Equations that Describe

Domain	Common Core State Standard	Aligned Activities	Aligned textbook Lessons
	<p><b>A-CED.A.1 ; A-CED.A.2 ; A-CED.A.3, A-CED.A.4</b> *Note: The work of these standards should focus on graphing linear equations and inequalities.</p>		

<p><b>Functions: Building Functions</b></p>	<p><b>Build a function that models a relationship between two quantities:</b>  <b>F.BF.A.1</b> Write a function that describes a relationship between two quantities. ★</p> <ul style="list-style-type: none"> <li>a) F.BF.A.1a. Determine an explicit expression, a recursive process, or steps for calculation from a context.</li> <li>b) F.BF.A.1b. Combine standard function types using arithmetic operations.</li> <li>c) <i>For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.</i></li> </ul> <p><b>F.BF.A.2</b> Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. ★</p> <p><b>Build new functions from existing functions:</b>  <b>F.BF.B.3</b> Identify the effect on the graph of replacing <math>f(x)</math> by <math>f(x) + k</math>, <math>f(x) - k</math>, <math>f(kx)</math>, and <math>f(x + k)</math> for specific values of <math>k</math> (both positive and negative); find the value of <math>k</math> given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. <i>Include recognizing even and odd functions from their graphs and algebraic expressions for them.</i></p>		
<p><b>Algebra: Reasoning with Equations and Inequalities</b></p>	<p><b>Represent and solve equations and inequalities graphically.</b>  <b>A.REI.D.12</b> Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p>		
<p><b>Statistics and Probability: Interpreting Categorical</b></p>	<p><b>Interpret linear models.</b>  <b>S.ID.C.7.</b> Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.  <b>S.ID.C.8</b> Compute (using technology) and interpret the correlation coefficient of a linear fit.</p>		

<p><b>and Quantitative Data</b></p>	<p><b>S.ID.C.9</b> Distinguish between correlation and causation.</p>		
<p><b>Statistics and Probability: Interpreting Categorical and Quantitative Data</b></p>	<p><b>Summarize, represent, and interpret data on two categorical and quantitative variables.</b>  <b>S.ID.B.6.</b> Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.</p> <ul style="list-style-type: none"> <li>a) S.ID.B.6.a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context.</i></li> <li>b) S.ID.B.6.b. Informally assess the fit of a function by plotting and analyzing residuals.</li> <li>c) S.ID.B.6.c. Fit a linear function for a scatter plot that suggests a linear association.</li> </ul>		
<p><b>Algebra: Reasoning with Equations and Inequalities</b></p>	<p><b>Solve systems of equations.</b>  <b>A.REI.C.5.</b> Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.  <b>A.REI.C.6.</b> Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear</p>		

	equations in two variables.		
<b>Algebra: Reasoning with Equations and Inequalities</b>	<b>Represent and solve equations and inequalities graphically.</b> <b>A.REI.D.12</b> Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.		
<b>Algebra: Creating Equations</b>	<b>A-CED.A.3</b> Represent constraints by equations or inequalities, <b>and by systems of equations and/or inequalities</b> , and interpret solutions as viable or nonviable options in a modeling context. <i>For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</i>		