Title of Instructional Materials: Spring Board: Mathematics with Meaning Algebra 2

Grade Level: Algebra II

Summary of Spring Board Algebra 2

Overall Rating: ☐ Weak (1-2) ☒ Moderate (2-3) ☐ Strong (3-4) **Summary / Justification / Evidence:** standards that are missing are as follows: A-APR.4, A-REI.11, F-IF.9, F-TF.1, F-TF.2, F-TF.5, F-TF.8, S-IC.4	Important Mathematical Ideas: ☐ Weak (1-2) ☐ Moderate (2-3) ☒ Strong (3-4) **Summary / Justification / Evidence:** Most of the standards that are addressed are well developed
Skills and Procedures: ☐ Weak (1-2) ☐ Moderate (2-3) ☒ Strong (3-4) **Summary / Justification / Evidence:** The standards are well developed and integrated, but could use additional direct use of skill examples	Mathematical Relationships: ☐ Weak (1-2) ☐ Moderate (2-3) ☒ Strong (3-4) **Summary / Justification / Evidence:** Developed well and integrated in the standards that are addressed

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
p. 13-15, 79-329	
Summary / Justification / Evidence: Scaffolded activities and guiding questions through real world investigations and embedded with the requirement of making sense and persevering	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

2. Reason abstractly and quantitatively.	
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits o creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	
Indicate the chapter(s), section(s), and/or page(s) reviewed: p. 34, 75-329	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence: Students create multiple representations and are required to communicate in different modes through collaboration activities	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
p. 3-11, 75-329	
Summary / Justification / Evidence: Students present arguments and critique each other's contributions through collaboration activities.	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicatedsituation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
p. 67, 75-329	
Summary / Justification / Evidence: Students create many mathematical models throughout each of the activity lessons	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

5. Use appropriate tools strategically.	
Mathematically proficient students consider the available tools when solving amathematical problem. These tools might include pencil and paper, concretemodels, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system,a statistical package, or dynamic geometry software. Proficient students aresufficiently familiar with tools appropriate for their grade or course to make sounddecisions about when each of these tools might be helpful, recognizing both theinsight to be gained and their limitations. For example, mathematically proficienthigh school students analyze graphs of functions and solutions generated using agraphing calculator. They detect possible errors by strategically using estimationand other mathematical knowledge. When making mathematical models, they knowthat technology can enable them to visualize the results of varying assumptions,explore consequences, and compare predictions with data. Mathematicallyproficient students at various grade levels are able to identify relevant externalmathematical resources, such as digital content located on a website, and use themto pose or solve problems. They are able to use technological tools to explore anddeepen their understanding of concepts.	
Indicate the chapter(s), section(s), and/or page(s) reviewed: p. 3, 75-79	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence: A variety of problem solving strategies are modelled and used. Students are also given tips and hints about technology to deepen their understanding	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

6. Attend to precision.	
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	
Indicate the chapter(s), section(s), and/or page(s) reviewed: p. 75-329	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence: The assessment rubric is well defined for students in the "embedded assessments" and focusses on an expectation of precision.	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

7. Look for and make use of structure.	
Mathematically proficient students look closely to discern a pattern or structure.Young students, for example, might notice that three and seven more is the sameamount as seven and three more, or they may sort a collection of shapes accordingto how many sides the shapes have. Later, students will see 7 °— 8 equals thewell-remembered 7 °— 5 + 7 °— 3, in preparation for learning about the distributiveproperty. In the expression $x2 + 9x + 14$, older students can see the 14 as 2 °— 7 andthe 9 as 2 + 7. They recognize the significance of an existing line in a geometricfigure and can use the strategy of drawing an auxiliary line for solving problems.They also can step back for an overview and shift perspective. They can seecomplicated things, such as some algebraic expressions, as single objects or asbeing composed of several objects. For example, they can see $5 – 3(x – y)2$ as 5minus a positive numbe times a square and use that to realize that its value cannotbe more than 5 for any real numbers x and y.	
Indicate the chapter(s), section(s), and/or page(s) reviewed: p. 75-329	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence: As concepts are introduced, students are regularly asked to identify patterns and notice peculiarities, then write about or discuss them	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

8. Look for and express regularity in repeated reasoning.	
Mathematically proficient students notice if calculations are repeated, and lookboth for general methods and for shortcuts. Upper elementary students mightnotice when dividing 25 by 11 that they are repeating the same calculations overand over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation$(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding$(x - 1)(x + 1)$, $(x - 1)(x2 + x + 1)$, and $(x - 1)(x3 + x2 + x + 1)$ might lead them to thegeneral formula for the sum of a geometric series. As they work to solve a problem,mathematically proficient students maintain oversight of the process, whileattending to the details. They continually evaluate the reasonableness of theirintermediate results.	
Indicate the chapter(s), section(s), and/or page(s) reviewed: p. 75-329	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence: Throughout the text, students are to use different methods to solve a problem and explain each method. They are also asked to generalize their findings and evaluate along the way.	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Reviewed By: _____

Title of Instructional Materials: Spring Board

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Activity 1.2 p13 – 15
#1 Students must find an approximation of the coordinates & explain what the pts represent.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

Reviewed By: _____

Title of Instructional Materials: Spring Board

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

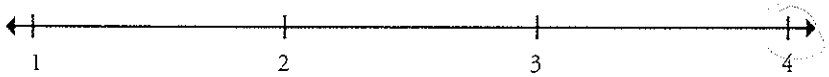
p34: Complete a graphic organizer by describing the input & output including units #8

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: SpringBoard

Documenting Alignment to the Standards for Mathematical Practice

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

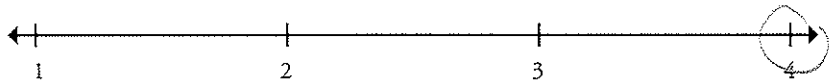
(Activity 1-1) p 3 - 11: S's use math terminology to explain what numbers represent, they look at feasible options

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: SpringBoard

Documenting Alignment to the Standards for Mathematical Practice

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

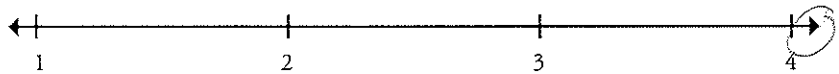
p 67: mail order gifts: students use matrices to solve the problem

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: SpringBoard

Documenting Alignment to the Standards for Mathematical Practice

5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

p 3 Activity 1.1: Solve a travel problem. S's figure out costs, complete tables & make graphs to solve the problem

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

Reviewed By: _____

Title of Instructional Materials: SpringBoard

Documenting Alignment to the Standards for Mathematical Practice

6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

p 104: Activity 2.4 : Part 3 ... plot the data ... scale ...

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

Reviewed By: _____

Title of Instructional Materials: Springboard

Documenting Alignment to the Standards for Mathematical Practice

7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

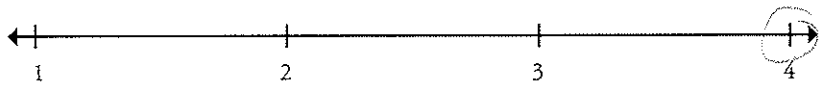
p 169-170 - Students must solve [illegible] problems; look for a pattern to [illegible] determine how many solutions & what type of solutions

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: SpringBoard

Documenting Alignment to the Standards for Mathematical Practice

8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

p219: Look for patterns in the formulas for a sum or Difference of cubes

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

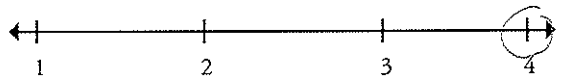
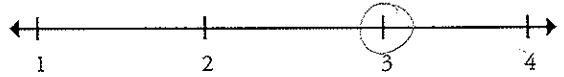
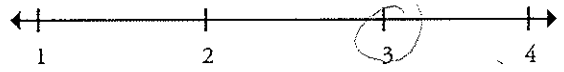
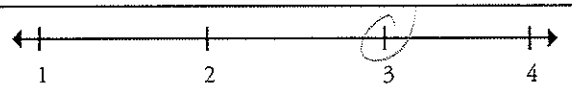
Overall Rating

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

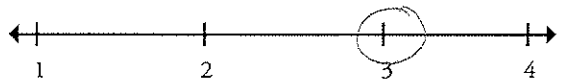
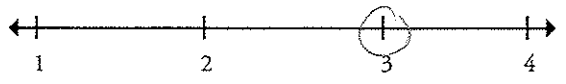
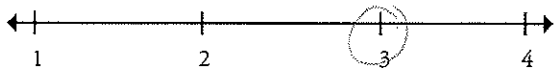
Perform arithmetic operations with complex numbers.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
N-CN.1 Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p157 – 162 Activity 3.3	Important Mathematical Ideas  1 2 3 4 nicely developed. S's learned how it came to be. Skills and Procedures  1 2 3 4 Mathematical Relationships  1 2 3 4 no word problems involving i **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating  1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

Perform arithmetic operations with complex numbers.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-CN.2 Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers. Note: i^2 as highest power of i.	Important Mathematical Ideas  Skills and Procedures  just a few practice problems Mathematical Relationships  **Summary / Justification / Evidence**
Indicate the chapter(s), section(s), and/or page(s) reviewed. p 160-161 Sec 3.3 p164	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

Use complex numbers in polynomial identities and equations.

N-CN.7

Solve quadratic equations with real coefficients that have complex solutions.

Note: Polynomials with real coefficients.

3.1 - They have real solutions, not imaginary

Indicate the chapter(s), section(s), and/or page(s) reviewed.

Activities: 3.1, 3.2, 3.4

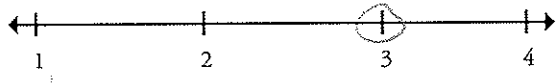
p147 - 154

p165 - 170

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

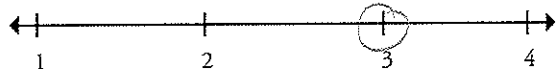
Important Mathematical Ideas

Skills and Procedures



Not many problems to solve

Mathematical Relationships

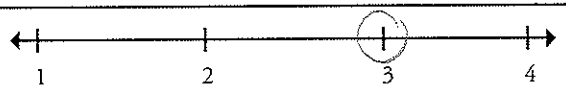


Summary / Justification / Evidence

p170 #5d - complex conjugate solutions

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Overall Rating

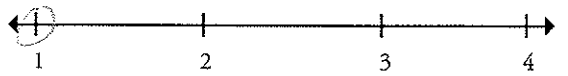
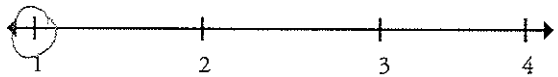


Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

Use complex numbers in polynomial identities and equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
N-CN.8 (+) Extend polynomial identities to the complex numbers. *For example, rewrite $x^2 + 4$ as $(x + 2i)(x – 2i)$.* Note: Polynomials with real coefficients. p220, ex 3, step 5 **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p157-164; 3.3 - multiplying complex binomials only 5.3 ?	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): can't find factoring & getting complex to zero
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

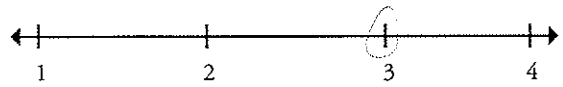
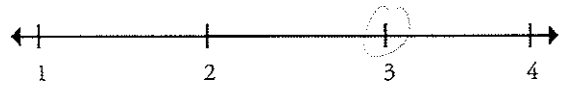
Use complex numbers in polynomial identities and equations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-CN.9 (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials. Note: Polynomials with real coefficients. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 4.3 p. 220: Fund Thm of Alg Ex 3 - 222	Important Mathematical Ideas: 1 2 3 4 Skills and Procedures: 1 2 3 4 Mathematical Relationships: 1 2 3 4 **Summary / Justification / Evidence** Find the zeros of polynomial functions **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-SSE.1a 1. Interpret expressions that represent a quantity in terms of its context.* a. Interpret parts of an expression, such as terms, factors, and coefficients. Note: Polynomial and rational. p151 (3.2) - Quadratics p159 (3.3) complex #s p203 - polynomials p283 - rational & (5.6) p313 **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p 33 (1.4) ≠ 0 p130 (3.6) exponential eqns	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-SSE.1b 1. Interpret expressions that represent a quantity in terms of its context.* b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.* Note: Polynomial and rational. p35 (1.4-1.5) composite functions p109 (2.4-2.5) Logs & Exponents p157 (3.3-3.4) - quadratics p217 (4.3, 4.4) - polynomials p253 (5.3, 5.4) - Rational Expressions p309 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas: 1 2 3 4 Skills and Procedures: 1 2 3 4 Mathematical Relationships: 1 2 3 4 **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spr. '09 Precalc

ALGEBRA II — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

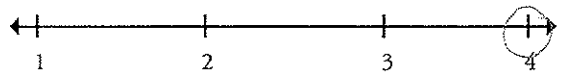
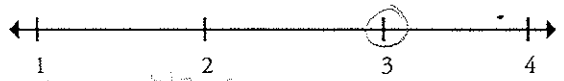
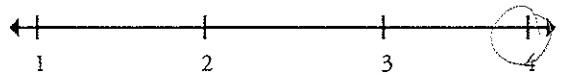
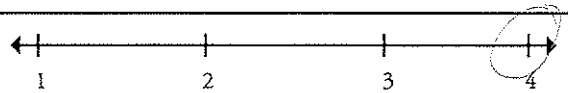
Interpret the structure of expressions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-SSE.2 Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.* Note: Polynomial and rational. p35-46 : 1-4, 1-5 (compositional? Rewrite an expression?) p121-136 : 2-5, 2-6 log + exp functions 157-172 : 3-3, 3-4 Complex numbers p223-230 : 4-4 - graphing polynomials p283-290 : 5-3 - radical expressions : 5-6 - simplifying rational expressions p301- : EA 5-2 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Write expressions in equivalent forms to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-SSE.4 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. *For example, calculate mortgage payments.** p85 - 94 ; 2-2 p 89 - Derive the formula **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  not many practice problems Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

Perform arithmetic operations on polynomials.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. Note: Beyond quadratic. p207-222 3-1, 3-2 / 4-2, 4-3 / 5-1, 5-2 } closure is never mentioned p267-276 p328 Unit 5 reflection **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** The concept of closure is never mentioned Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

Understand the relationship between zeros and factors of polynomials.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-APR.2 Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$. Sec 3-1 - 3-3 Sec 4-3, 4-4 p227: The Remainder Thm p228: Sec 3,4 p230 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): not many problems for students to apply the zeros
	Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

Understand the relationship between zeros and factors of polynomials.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-APR.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. Sec 4-3, 4-4 p223: constructed a rough graph using zeros & end behavior p229 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas: 1 2 **3** 4 Skills and Procedures: 1 **2** 3 4 Very few practice problems Mathematical Relationships: 1 2 **3** 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating: 1 2 **3** 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

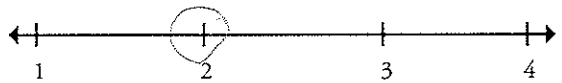
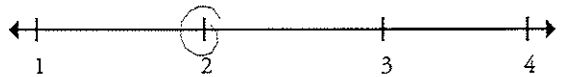
Use polynomial identities to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-APR.4 Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity* $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ *can be used to generate Pythagorean triples.* Not covered **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** This concept is not covered. It is not mentioned in the CCS breakdown Overall Rating 0 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

Use polynomial identities to solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-APR.5 (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.[1] sec 4-6 p247 - The Binomial Thm 1 The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  only a few problems to practice Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

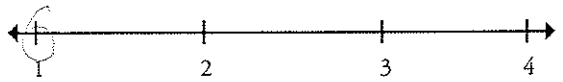
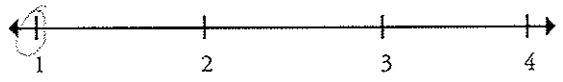
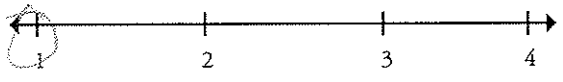
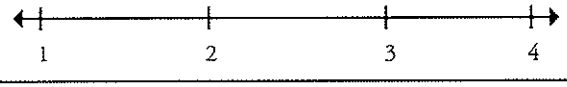
Rewrite rational expressions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-APR.6 Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system. Note: Linear and quadratic denominators. 4-1, 4-2, 5-1, 5-4, 5-5, 5-6, 5-7 solve eq w/ rational expressions simplify eq rational exp p211-212 long division p213-214 synthetic division p299- a G.C. to graph a rational function **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

Rewrite rational expressions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-APR.7 (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions. Note: Linear and quadratic denominators. 4-1, 4-2, 5-4, 5-5, 5-6, 5-7, 7-1, 7-2, 7-3, 7-5 They do these problems, but the concept of "closed" is not mentioned **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): closure is not mentioned
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Creating Equations (A-CED)

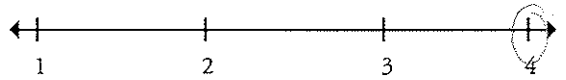
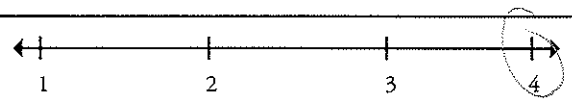
Create equations that describe numbers or relationships.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-CED.1 Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.** Note: Equations using all available types of expressions, including simple root functions. 1-3, 2-6, 3-3, 5-2, 5-3, 5-7, 6-3 1 1 ? 1 1 1 ? Absolute Value log sq root rational rational sq root rational sq root **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas: 1 2 3 4 Skills and Procedures: 1 2 3 4 Mathematical Relationships: 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Students were not asked to create eqn or ineq, All eqn were given - thing was asked to solve them Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — ALGEBRA (A)

Creating Equations (A-CED)

Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.* Note: Equations using all available types of expressions, including simple root functions. 1-1 - Linear + graphs 1-2 - Systems of eq 1-4 - Function Composition 2-3 - Exponentional 2-4 - Logs 2-6 - Log & Expo Inequalities 5-4 - Rational 5-5 - Rational 5-3 - Radical **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — ALGEBRA (A)

Creating Equations (A-CED)

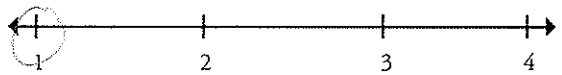
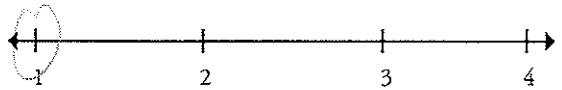
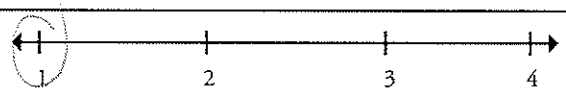
Create equations that describe numbers or relationships.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.** Note: Equations using all available types of expressions, including simple root functions. 1-1 (p8,9) Linear Programming constraints, feasible region 5-4 5-5 Rational 5-6 5-7 7-3 7-5 roots **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 **4** Skills and Procedures 1 2 3 **4** Mathematical Relationships 1 2 3 **4** **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 **4**

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — ALGEBRA (A)

Creating Equations (A-CED)

Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
A-CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.** Note: Equations using all available types of expressions, including simple root functions. 5-4 - Inverse functions p 274 { cubic problem one square root problem **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** I don't know how they expect the students to find the inverse algebraically Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

Understand solving equations as a process of reasoning and explain the reasoning.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. Note: Simple radical and rational. 5-2 (p281) - solve rad eq & extraneous solutions 5-7 (p317) - solve rational eq & extraneous solutions **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Not many practice problems Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — ALGEBRA (A)

Reasoning with Equations and Inequalities (A-REI)

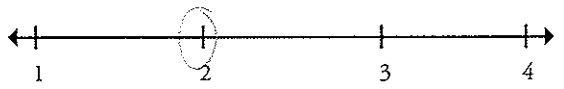
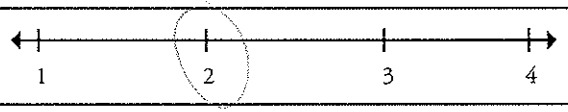
Represent and solve equations and inequalities graphically.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
A-REI.11 Explain why the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.* Note: Combine polynomial, rational, radical, absolute value, and exponential functions. I-1 - The book says to look here, but it is not here **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** not covered Overall Rating 0 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

Interpret functions that arise in applications in terms of the context.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.4 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. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.** Note: Include rational, square root and cube root; emphasize selection of appropriate models. 1-1 - linear 1-3 absolute value 2-3 Exponential - end behavior, increase, decrease 3-1 quadratic - max, mins, symmetries, pos, neg 4-1 polynomial - end behavior, max mins, 5-2 sq root) graphing using transformations 5-4 rational **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): periodicity
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

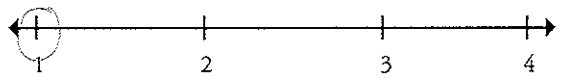
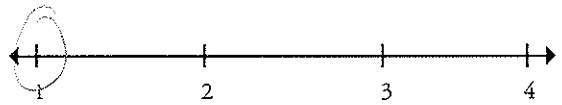
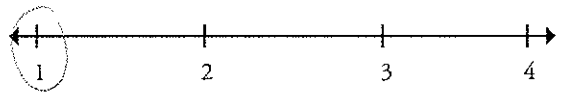
Interpret functions that arise in applications in terms of the context.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.** Note: Emphasize selection of appropriate models. 1-1 Linear 2-3 Exp & Log 106-108 - domain 3-5 Quadratic 4-4 Polynomial 5-2 Sq root p277 - domain 5-4 radicals p 298-300 domain **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

Interpret functions that arise in applications in terms of the context.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.* Note: Emphasize selection of appropriate models. 1-1 p5 rate of change 1-4 p40 2-3 ? 3-4 ? **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): Hardly mentioned
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

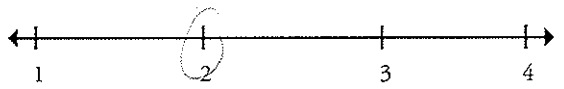
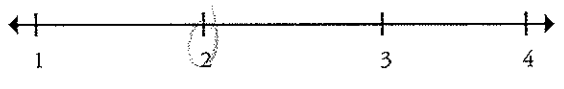
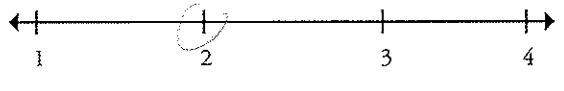
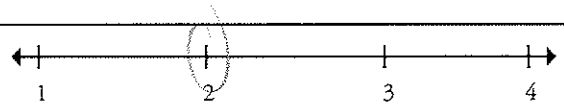
Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-IF.7b 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. Note: Focus on using key features to guide selection of appropriate type of model function. 5-2 Sq Root - Simple enough to graph by hand 1-3 Piecewise + Absolute Value All simple ones that can be graphed by hand **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas: 1 2 3 4 Skills and Procedures: 1 2 3 4 Mathematical Relationships: 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Step Functions, cube root, regular technology for complicated ones Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

Analyze functions using different representations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.7c 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. Note: Focus on using key features to guide selection of appropriate type of model function. 4-4 Graph by hand, identify zeros, & end behavior **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): No technology require - no complicated factors
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Sync ng Board

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

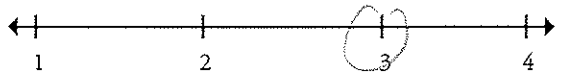
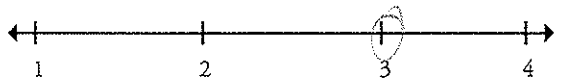
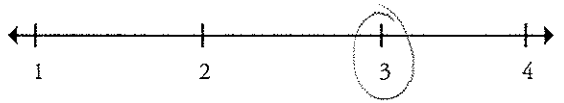
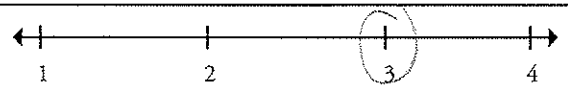
Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-IF.7e 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. Note: Focus on using key features to guide selection of appropriate type of model function. 2-3 Exp & Log 2-6 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Trig is not covered in this book Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-IF.8a 8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. Note: Focus on using key features to guide selection of appropriate type of model function. 3-1 ? pg 53 3-2 : Solve eq by factoring 3-3 ? pg 57 3-4 Solve by completing the sq 3-5 ; show max, min, sym, x-int 3-6 ; put in vertex form **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

Analyze functions using different representations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.8b 8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.* Note: Focus on using key features to guide selection of appropriate type of model function. p99 2-3: exp growth + decay increase, decrease, end behavior, HA **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — FUNCTIONS (F)

Interpreting Functions (F-IF)

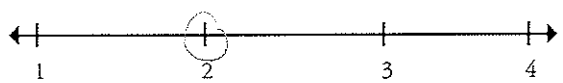
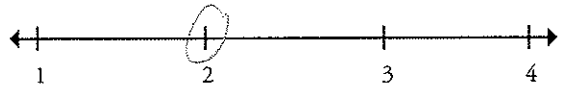
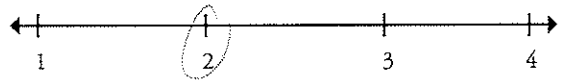
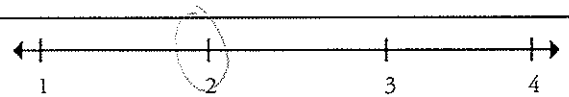
Analyze functions using different representations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.* Note: Focus on using key features to guide selection of appropriate type of model function. 1-1? 1-2? 1-3? 1-4? 1-5? Unit2? Unit3? Unit4? Unit5? **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** I can't find comparing 2 functions Overall Rating 0 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Building Functions (F-BF)

Build a function that models a relationship between two quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.1b 1. Write a function that describes a relationship between two quantities.* b. Combine standard function types using arithmetic operations. *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.* Note: Include all types of functions studied. 1-2 1-4: Create functions p 36 (linear) 1-5 1-7 2-3 - Exponential : maybe 5-1 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): Not sure if really covered
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Building Functions (F-BF)

Build new functions from existing functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.3 Identify the effect on the graph of replacing *f(x)* by *f(x) + k*, *k f(x)*, *f(kx)*, and *f(x + k)* for specific values of *k* (both positive and negative); find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types. 2-3: exponential (all translations covered) 2-5: log functions 3-6: quadratics 5-2: Sq root functions 5-5: rational **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): odd/even functions technology?
	Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Building Functions (F-BF)

Build new functions from existing functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.4a 4. Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$. Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types. 1-5: inverse linear functions 2-5: inverse exp & log functions 5-1: composition of functions **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 **2** 3 4 Skills and Procedures 1 **2** 3 4 Mathematical Relationships 1 **2** 3 4 **Summary / Justification / Evidence** not many problems
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 1 **2** 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

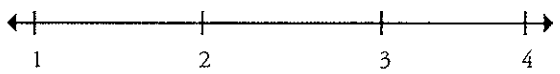
Construct and compare linear, quadratic, and exponential models and solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-LE.4 For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.* Note: Logarithms as solutions for exponentials. 2-3 2-4 2-5 2-6 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** Common logs, logs base 2. **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** natural logs are not covered Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — FUNCTIONS (F)

Trigonometric Functions (F-TF)

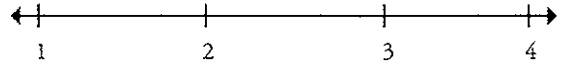
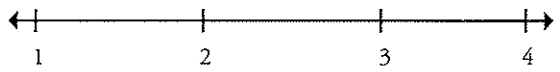
Extend the domain of trigonometric functions using the unit circle.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. NOT COVERED **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): No Trig
	Overall Rating 2 

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — FUNCTIONS (F)

Trigonometric Functions (F-TF)

Extend the domain of trigonometric functions using the unit circle.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle. NOT COVERED **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** NO TRIG Overall Rating 0 

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — FUNCTIONS (F)

Trigonometric Functions (F-TF)

Model periodic phenomena with trigonometric functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.* Not covered **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** no trig Overall Rating 0 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — FUNCTIONS (F)

Trigonometric Functions (F-TF)

Prove and apply trigonometric identities.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-TF.8 Prove the Pythagorean identity sin2(θ) + cos2(θ) = 1 and use it to find sin(θ), cos(θ), or tan(θ) given sin(θ), cos(θ), or tan(θ) and the quadrant of the angle. NOT COVERED **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** NO TRIG Overall Rating 0 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Interpreting Categorical and Quantitative Data (S-ID)

Summarize, represent, and interpret data on a single count or measurement variable.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. p349:6-2: mean & standard deviation p359:6-3: normal distribution **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** no population percentage problems use of calculators, spreadsheets, & tables Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Making Inferences and Justifying Conclusions (S-IC)

Understand and evaluate random processes underlying statistical experiments.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-IC.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population. 6-1 : random sample 6-2 6-3 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** the word inference is not used in this text Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Making Inferences and Justifying Conclusions (S-IC)

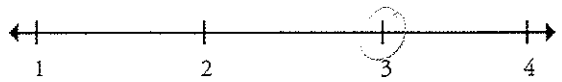
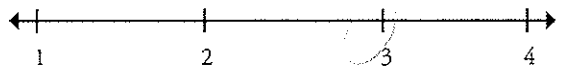
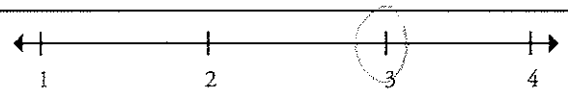
Understand and evaluate random processes underlying statistical experiments.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-IC.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?.* 4-6? Students were just asked to find the probability of certain events, not to determine if something was a bad model. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Making Inferences and Justifying Conclusions (S-IC)

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-IC.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. 6-2 p335: Sample surveys are discussed p344: observational study & experiment is discussed **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Making Inferences and Justifying Conclusions (S-IC)

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-IC.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. 6-1 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** The terms sampling, mean & margin of error are not discussed Overall Rating 0 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Springboard

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Making Inferences and Justifying Conclusions (S-IC)

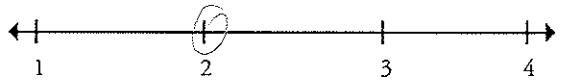
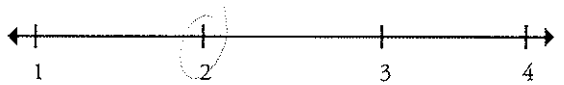
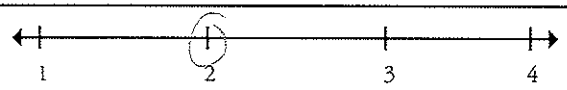
Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-IC.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. p348: Comparison of 2 Sports Drinks. Standard Deviation was used to compare the data to determine which drink is the more consistent for the market. **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** Only one example for students to complete **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: SpringBoard

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Making Inferences and Justifying Conclusions (S-IC)

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-IC.6 Evaluate reports based on data. 6-1 6-2 6-4 p 368: Check your understanding p373 # 20, 21, 22, 23 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Using Probability to Make Decisions (S-MD)

Use probability to evaluate outcomes of decisions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-MD.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). Note: Include more complex situations. Sec 4-7: use probab... to ... what ... apk **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: Spring Board

ALGEBRA II — STATISTICS AND PROBABILITY (S)

Using Probability to Make Decisions (S-MD)

Use probability to evaluate outcomes of decisions	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-MD.7 (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). Note: Include more complex situations. 6-2: p 350 #20 Check your understanding #5 **Indicate the chapter(s), section(s), and/or page(s) reviewed.**	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By:

Title of Instructional Materials: Springboard: mathematics with meaning Algebra 2

This text is focussed on Collaboration

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

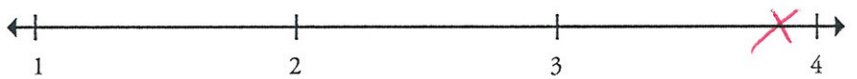
p-75 -329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Scaffolded activities and guiding questions thru real-world investigations are embedded with the requirement of making sense and persevering

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

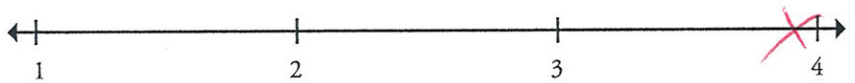
p. 75 - 329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Students create multiple representations and are required to communicate in different modes thru collaboration activities

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 75 - 329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Throughout collaboration, students present arguments and critique each other's contributions. Students are consistently asked to "explain" in the progression of the lesson

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), or page(s) reviewed.

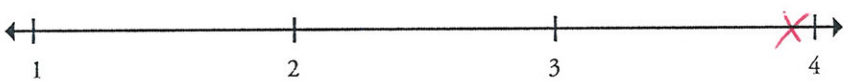
p. 75 - 329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Students create many mathematical models throughout each of the activity lessons

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), section(s), or page(s) reviewed.

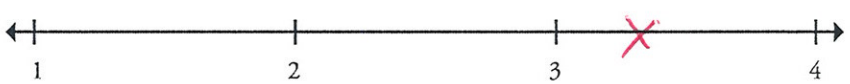
p. 75 - 329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

a variety of Problem Solving Strategies are modelled and used. Students are also given tips and hints about technology to deepen their understanding

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Indicate the chapter(s), section(s), or page(s) reviewed.

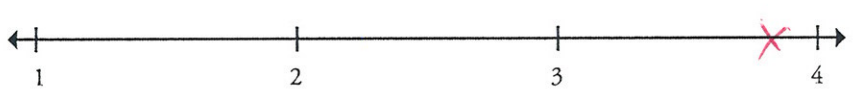
p-75 - 329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

The assessment rubric is well defined for students in the "embedded assessments" and focusses on an expectation of precision. They are led thru this process in all of their preceding work.

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 75 - 329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

As concepts are introduced, students are regularly asked to identify patterns and notice generalities, then write about or discuss them.

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Indicate the chapter(s), section(s), or page(s) reviewed.

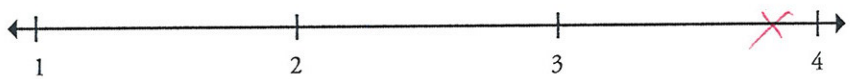
p. 75 - 329

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Throughout the text, students are to use different methods to solve a problem and explain each method. They are also asked to generalize their findings and evaluate along the way

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

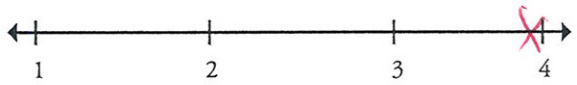
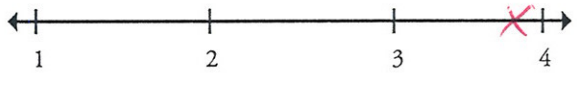
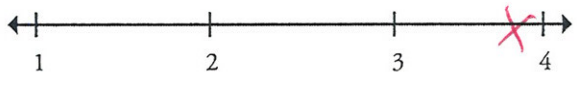
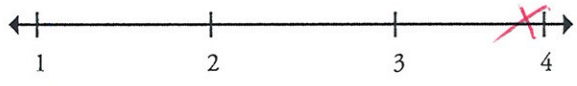
Perform arithmetic operations with complex numbers.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
N-CN.1 Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Unit 3, focus on activity 3.3	Important Mathematical Ideas: 1 2 3 **4** Skills and Procedures: 1 2 3 **4** Mathematical Relationships: 1 2 3 **4** **Summary / Justification / Evidence** well developed Thru student investigation **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating: 1 2 3 **4**

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

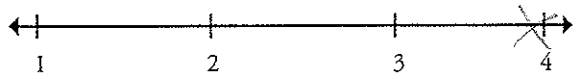
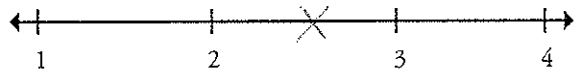
Perform arithmetic operations with complex numbers.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-CN.2 Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers. Note: i^2 as highest power of i. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Unit 3 focus on Activity 3.3	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** well developed - Students are guided thru investigation on most of these concepts **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

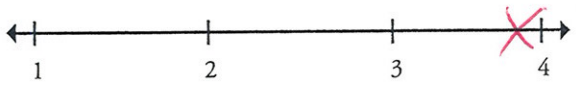
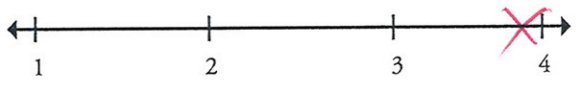
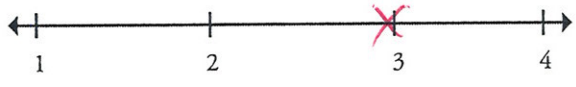
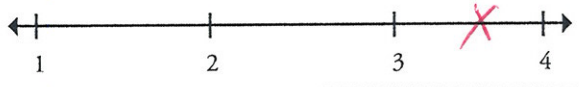
Use complex numbers in polynomial identities and equations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-CN.7 Solve quadratic equations with real coefficients that have complex solutions. Note: Polynomials with real coefficients.	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** well developed, but not much connections to out side of mathematics
Indicate the chapter(s), section(s), and/or page(s) reviewed. Unit 3 3.1, 3.4	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

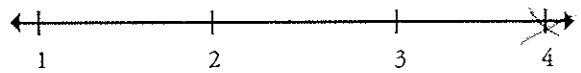
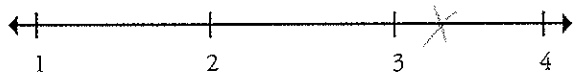
Use complex numbers in polynomial identities and equations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-CN.8 (+) Extend polynomial identities to the complex numbers. *For example, rewrite $x^2 + 4$ as $(x + 2i)(x – 2i)$.* Note: Polynomials with real coefficients.	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** well developed integrated with investigation, history, and technology
Indicate the chapter(s), section(s), and/or page(s) reviewed. 3.3	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — NUMBER AND QUANTITY (N)

The Complex Number System (N-CN)

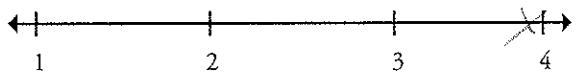
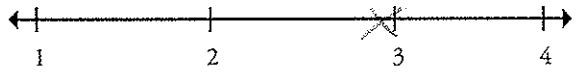
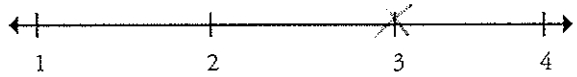
Use complex numbers in polynomial identities and equations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-CN.9 (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials. Note: Polynomials with real coefficients. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 4.3 4.4 5.7	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Very well developed through leading, investigation, and multiple representations **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — FUNCTIONS (F)

Building Functions (F-BF)

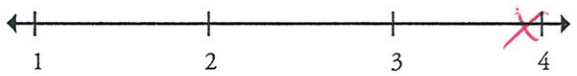
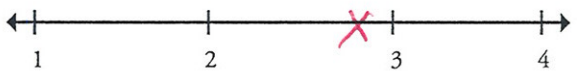
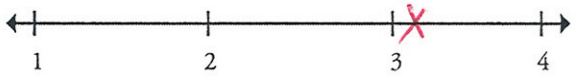
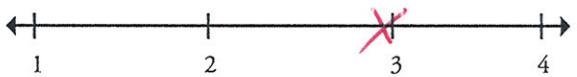
Build a function that models a relationship between two quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.1b 1. Write a function that describes a relationship between two quantities.* b. Combine standard function types using arithmetic operations. *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.* Note: Include all types of functions studied. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Unit 1 Unit 2 Unit 5	Important Mathematical Ideas  1 2 3 4 Skills and Procedures  1 2 3 4 Mathematical Relationships  1 2 3 4 **Summary / Justification / Evidence** Well developed. All function types included **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating  1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — FUNCTIONS (F)

Building Functions (F-BF)

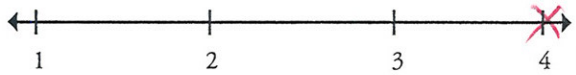
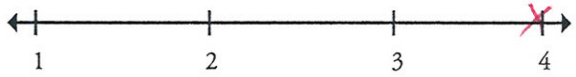
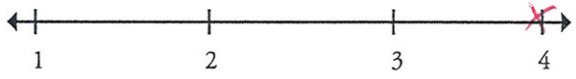
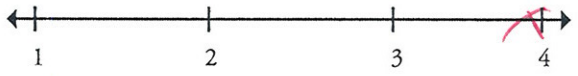
Build new functions from existing functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.3 Identify the effect on the graph of replacing *f(x)* by *f(x) + k*, *k f(x)*, *f(kx)*, and *f(x + k)* for specific values of *k* (both positive and negative); find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types.	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Good development of content thru investigation
Indicate the chapter(s), section(s), and/or page(s) reviewed. 1-3 2.3 2.5 3.6 5.2 5.5	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** no mention of even/odd functions
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — FUNCTIONS (F)

Building Functions (F-BF)

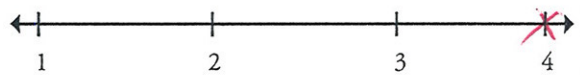
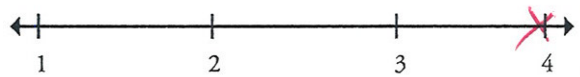
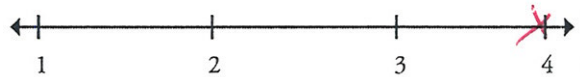
Build new functions from existing functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-BF.4a 4. Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$. Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 1.5 2.4 2.5 5.1 5.2	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** They have done a great job with the idea of "inverse" and have embedded it throughout the text **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

ALGEBRA II — FUNCTIONS (F)

Linear, Quadratic, and Exponential Models (F-LE)

Construct and compare linear, quadratic, and exponential models and solve problems.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
F-LE.4 For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.* Note: Logarithms as solutions for exponentials. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Unit 2	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** well developed and connected to real-world thru investigations and rigor **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating