2017-2018 WCSD Algebra 2 Program Evaluation Rubric

Evaluator Number

20

Program Number

6

Name of Text

Big Ideas Math Algebra 2 A common Core Curriculum

Publisher

Big Ideas Learning

Rate This Text Overall

☐ **High** ☐ **Mid** ☑ **Low**

Focus: Evaluate the table of contents and any pacing guides. Do not stop there; also evaluate units, chapters, and lessons. (Both student and teacher materials)

Functions - Graphing Transformations

Translating, stretching, shrinking and reflecting the graphs
Absolute Value, Quadratics, Exponential, Rational, Radical, Piecewise and Step Functions

Quadratic Functions with Complex Solutions

Graph Vertex, Standard and Intercept Forms
Solve in Vertex, Standard (quadratic formula, complete square) and Intercept Form
Write equations in 3 unknowns to write a quadratic given three points

Polynomials and Polynomial Functions

Add, subtract, multiply and divide – include property of closure
Graph polynomial functions
Solve polynomial equations
Model using polynomial functions

Rational Functions

Add, subtract, multiply and divide – include property of closure
Graph rational functions
Solve rational equations (extraneous solutions)
Model using rational functions

Radical Functions (Rational Exponents)

Add, subtract, multiply and divide – include property of closure
Graph radical functions
Solve equations with radicals (extraneous solutions)
Model using radical functions

Inverse Functions

Explore inverse functions
Use composition to show two functions are inverses
Use function notation, graphs and solving to find inverses

Exponential Functions

Add, subtract, multiply and divide exponential expressions – use properties of exponents
Graph exponential functions
Solve equations with exponential expressions (extraneous solutions)
Model using exponential functions

Logarithmic Functions

Add, subtract, multiply and divide logarithmic expressions – use properties of logs
Graph logarithmic functions
Solve equations with logarithmic expressions (extraneous solutions)
Model using logarithms functions

Statistics

S.ID.A (1-4)

Systems of Equations

A.RET.C.5

3 variable linear
Quad/linear
Poly/linear
Rational/linear

Graphing Form of Functions

Transformations

At least 90% of the topics are in the textbook with reference to topics.
Comments?

Most of the concepts are there, but the level is not adequate. There are topics that are missing and we would have to supplement a lot with this text.

- ○ Less than 25%
- ○ Less than 50% but greater than 25%
- ● Less than 90% but greater than 50%
- ○ At least 90%

Student work involves significant work with applications/modeling and problems that use algebra skills.
Comments?

There are a lot of procedural questions with one modeling problem in the examples. There is also one or two modeling problems in the homework. There is a modeling section in most units.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

There are problems at a level of sophistication appropriate to Algebra 2 (beyond the mere review of Algebra 1 course topics) that involve the application of knowledge and skills needed.
Comments?

The questions are appropriate but not at a high enough level. There is not a lot of application and higher level thinking questions.

- ○ Does not occur
- ● Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs

Do the chapter/units provide for the opportunity to graph the functions, solve for the zeros of the functions and model using applications of the functions?
Comments?

Yes but there is not a lot of opportunity to apply the functions. There is a section of modeling, but it should be more prominent throughout each section.

- ○ Does not occur
- ● Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs

Rigor: Examine the instructional materials, student practice and assessments. Look for evidence of where the topics explicitly require students to understand concepts, do the assignments that students work on build that understanding, and do assessment tasks reveal whether students understand the mathematics in question?
Comments?

This is a pretty basic textbook. There is nothing special about it and the level of questioning is not at a high enough level. The students are not required to apply their understanding. Mostly procedural.

- ○ Does not occur
- ● Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs

Rigor: Do the materials feature high-quality conceptual problems and conceptual discussion questions? Do they provide opportunities for multiple representations?
Comments?

There are no discussion questions and do not have opportunity for multiple representations.

- ● Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs

Rigor: Are the materials designed so that students attain the fluency and procedural skills required? Evaluate the lessons, chapter/unit assessments, daily routines, and homework assignments for evidence in the development of fluency and procedural skill supported by conceptual understanding.
Comments?

There is fluency with the procedural skills. There is not a lot of conceptual understanding in the textbook. It is a basic textbook.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

Rigor: Are the materials designed so that teachers and students spend sufficient time working with applications, without losing focus on the topics defined for the course? Are there single- and multi-step contextual problems that develop the mathematics of the course, afford opportunities for practice, and engage students in problem solving?
Comments?

No there are not enough application problems. The development of the content is accurate and easy to follow. There are practice problems for students, but nothing special.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

Coherence: Are the materials coherent in their content, do the topics build on each other in a way that is beneficial to the instruction, student practice and assessments?
Comments?

Yes the topics build but do not go deep enough

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

Mathematical Practices: Are the mathematical practices addressed in such a way to benefit instruction and expectation of students?
Comments?

No it is not up to our expectation of students. This would not match the IM and the EOC and students would be at a disadvantage.

- ● Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs

Standards: Does the instructors text reference the standards in the chapters/units?
Comments?

I don't see the standards anywhere. Did I miss them?

- ● Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs

Does the textbook meet requirements/rigor for algebra 2 Honors, yet remain appropriate for Algebra 2?
Comments?

Not even close. I feel this book is too low for regular Algebra 2.

- ● Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs

How do the supplemental materials reflect/extend the material in the textbook?
Comments?

The supplemental materials are fine, but we would not be able to have a consumable workbook and journal for every student every year so they are not really part of the discussion.

- ● Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ○ Consistently occurs