Plan for Algebra 2 Unit 3: Complex Numbers and Rational Exponents

Relevant Unit(s) to review: Grade 8 Unit 7: Exponents and Scientific Notation
Algebra 1 Unit 6: Introduction to Quadratic Functions
Algebra 1 Unit 7: Quadratic Equations

Essential prior concepts to engage with this unit	• Properties of exponents • Square and cube roots • Solving quadratics by completing the square • Solving quadratics using the quadratic formula
Brief narrative of approach	This unit is intentionally written to incorporate prerequisite concepts. There are numerous optional lessons so it is not necessary to pre-teach any topics. If the Check Your Readiness shows that students are not fluent with exponents or roots it will be necessary to use the optional lessons to teach that content in the first section. If the Check Your Readiness shows that students are not fluent with the quadratic formula or completing the square it will be necessary to use the optional lesson to teach that content in the final section. Additional resources on exponents can be found in Grade 8 Unit 7. Algebra 1 Units 6 and 7 also address quadratics in particular and may be another source of support for this unit.

Lessons to Add	**Lessons to Remove or Modify**
The optional lessons should provide enough support for students to engage in the material for this unit. If the formative assessments provided in this unit indicate that additional resources are needed, consider using Grade 8 Unit 7 or Algebra 1 Units 6 and 7 for additional resources.	Any of the 6 optional lessons may be safely skipped if the Check Your Readiness assessment indicates that students are familiar enough with the concepts to engage with the other lessons.
Lessons added: 0	Lessons removed: 0

Modified Plan for Algebra 2 Unit 3

Day	IM lesson	Notes
	Alg2.3 Check Your Readiness Assessment	Note that the Check Your Readiness assessment includes item-by-item guidance to inform just-in-time adjustments to instruction within the lessons in Alg2.3.
1	Alg2.3.1	Include this optional lesson if students demonstrate a need on the Check Your Readiness assessment.
2	Alg2.3.2	Include this optional lesson if students demonstrate a need on the Check Your Readiness assessment.
3	Alg2.3.3	
4	Alg2.3.4	
5	Alg2.3.5	
6	Alg2.3.6	
7	Alg2.3.7	
8	Alg2.3.8	
9	Alg2.3.9	Include this optional lesson if students demonstrate a need for additional practice during the previous lessons.
10	Alg2.3.10	
11	Alg2.3.11	
12	Alg2.3.12	
13	Alg2.3.13	

14	Alg2.3.14	Include this optional lesson if students demonstrate a need for additional practice during the previous lessons.
15	Alg2.3.15	
16	Alg2.3.16	Include this optional lesson if students demonstrate a need on the Check Your Readiness assessment.
17	Alg2.3.17	
18	Alg2.3.18	
19	Alg2.3.19	Include this optional lesson if students demonstrate a need for additional practice during the previous lessons.
20	Alg2.3 End Assessment	

Priority and Category List for Lessons

High priority (+), Medium priority (0), Low priority (-)

E: Explore, Play, and Discuss, D: Deep Dive, A: Synthesize and Apply

Lesson	Priority (+, 0, -)	Category (E, D, A)	Notes
Alg2.3.1	-	D	This optional lesson reviews exponent rules for integer exponents in preparation for extending to rational exponents.
Alg2.3.2	-	E	This optional lesson reviews square and cube roots in a geometric context.
Alg2.3.3	+	E	This lesson introduces the representation of roots as fractional exponents (unit fractions only for this lesson).
Alg2.3.4	0	D	This lesson extends the study of fractional exponents beyond unit fractions.
Alg2.3.5	0	D	This lesson extends the study of fractional exponents to include negative numbers.
Alg2.3.6	0	E	This lesson introduces the convention that a square root is a function and therefore defined to give only the positive root.
Alg2.3.7	0	E	This lesson offers an opportunity to examine the number of solutions produced by various techniques to solve equations using squares and square roots.
Alg2.3.8	0	E	This lesson extends to cubes and cube roots.
Alg2.3.9	-	A	This optional lesson offers additional practice solving radical equations.
Alg2.3.10	0	E	This lesson introduces imaginary numbers.
Alg2.3.11	0	E	This lesson introduces the notation *i* and defines complex numbers.

Alg2.3.12	-	E	This lesson offers an opportunity to compute with complex numbers (addition and subtraction).
Alg2.3.13	-	D	This lesson extends computation with complex numbers to multiplication.
Alg2.3.14	-	A	This optional lesson offers an opportunity to practice computation with complex numbers.
Alg2.3.15	-	A	This lesson consists primarily of an info gap that reinforces multiplication with complex numbers.
Alg2.3.16	-	A	This optional lesson reviews completing the square and the quadratic formula.
Alg2.3.17	0	D	This lesson introduces solving quadratic equations whose solutions are non-real complex numbers.
Alg2.3.18	0	A	This lesson continues to study quadratic equations whose solutions are non-real complex numbers.
Alg2.3.19	-	A	This optional lesson offers additional practice solving quadratic equations.