Plan for Algebra 1 Unit 7: Quadratic Equations

Relevant Unit(s) to review: None

Essential prior concepts to engage with this unit	The major prerequisite knowledge for this unit is taught in Unit 6 of this course.
Brief narrative of approach	The prerequisite skills required have been built throughout the course, so no supplemental lessons are suggested here. Use the Check Your Readiness assessment to inform adjustments to instruction. While no lessons are recommended for addition or removal due to unfinished learning, some suggestions are made for modifying the unit in case there is limited time at the end of the school year to teach Unit 7 to fidelity.

Lessons to Add	Lessons to Remove or Modify
If the initial assessment indicates that students need additional background, consider looking at the related lessons in the Algebra 1 Extra Supports course.	No lessons are recommended to remove or modify for additional lessons. If time is an issue, these modifications could be made to ensure that students are able to work with the most essential topics of this unit: 1. Combine Lessons 1 and 2 (particularly if Unit 6 Lesson 7 was skipped). Focus on Activity 2.2 2. Remove Lesson 10. This focuses on factoring when the coefficient of the squared term is greater than 1. 3. Remove or condense Lessons 11–15 on completing the square, depending on the emphasis in your standards on completing the square. 4. Remove Lessons 19–24.
Lessons added: 0	Lessons removed: 0

Modified Plan for Algebra 1 Unit 7

Day	IM lesson	Notes
	assessment	A1.7 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 Unit 7.
1	A1.7.1	This lesson introduces solving quadratic equations in context.
2	A1.7.2	This lesson shows the benefits of factored form.
3	A1.7.3	This lesson introduces solving quadratic equations by reasoning.
4	A1.7.4	This lesson introduces the zero product property.
5	A1.7.5	
6	A1.7.6	
7	A1.7.7	
8	A1.7.8	
9	A1.7.9	
10	A1.7.10	
11	assessment	Mid-unit Assessment
12	A1.7.11	This is the first lesson on completing the square. If time is limited, you might consider consolidating or removing topics from this section.
13	A1.7.12	
14	A1.7.13	
15	A1.7.14	

16	A1.7.15	
17	A1.7.16	This lesson introduces the quadratic formula.
18	A1.7.17	This lesson provides practice on the quadratic formula.
19	A1.7.18	This lesson looks for errors in application of the quadratic formula.
20	A1.7.19	This lesson derives the quadratic formula. If time is limited, you might consider removing it.
21	A1.7.20	This is the first of two lessons on the properties of rational and irrational numbers.
22	A1.7.21	
23	A1.7.22	This connects completing the square and rewriting expressions in vertex form.
24	A1.7.23	
25	A1.7.24	
26	assessment	End-of-Unit 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
A1.7.1	0	E	
A1.7.2	+	D	Introduces the usefulness of factored form in solving quadratic equations.
A1.7.3	0	E	
A1.7.4	+	D	zero product property
A1.7.5	+	A	Introduces the idea that graphs of quadratic functions can have 0, 1, or 2 horizontal intercepts and connect that to solutions to quadratic equations of the form $(x + m)(x + m) = 0$.
A1.7.6	+	E	Introduces “factoring” quadratic expressions.
A1.7.7	+	D	deeper dive into factoring, including expressions of the form $(x + m)(x - n)$
A1.7.8	+	D	difference of squares
A1.7.9	+	A	solving quadratic equations using factoring and the zero product property
A1.7.10	-	A	Explores solving quadratic equations by factoring when the coefficient of the squared term is not 1. If your standards emphasize this topic, then prioritize it. Otherwise, the major takeaway from this lesson should be “We can solve quadratic equations by factoring or by graphing.”

A1.7.11	0	E	Explores perfect squares and quadratic expressions.
A1.7.12	+	D	Introduces completing the square.
A1.7.13	0	D	Further explores completing the square.
A1.7.14	-	D	Explores completing the square when the squared term has a coefficient other than 1. Emphasize only if your standards emphasize this topic.
A1.7.15	0	A	Introduces the plus/minus symbol and applies completing the square to solving any quadratic equation.
A1.7.16	+	E	Introduces the quadratic formula.
A1.7.17	0	D	Provides more practice with the quadratic formula.
A1.7.18	0	A	Apply understanding of the quadratic formula to identify errors.
A1.7.19	-	E	Derive the quadratic formula.
A1.7.20	0	D	Determine if a solution is rational or irrational.
A1.7.21	-	A	Apply understanding of rational and irrational numbers to explore properties of rational and irrational numbers.
A1.7.22	0	E	Connect vertex form to completing the square.
A1.7.23	0	D	Transform quadratic expressions from standard form to vertex form by completing the square.
A1.7.24	0	A	Apply understandings of vertex form and completing the square to solving problems in context