Sample Year-Long Schedule for Math Instruction
Eureka **Intensive** Algebra I

The following sample schedule integrates the Eureka curriculum, Eureka Remediation Tools, LEAP 360 Interim Assessments and flex days to allow teachers to move at a pace that best supports student learning. Flex days could be used for remediation, enrichment lessons, assessment, or other instructional activities. This sample should be used to guide instructional timing but should not dictate exactly what lesson a teacher should be on during a given day. The guidance has been broken into 9 weeks, as this is the calendar that most Louisiana schools systems follow.

- Coding: 1.1-A represents Module 1.Lesson 1-Topic A Lessons marked as "optional for remediation" have been marked by *. Teachers should determine best use of these lessons based on their students.
- Lessons marked as "optional for enrichment" have not been included in this calendar. Teachers may determine to use these during "flex" days.
- Even though only one day on this calendar has been marked for the LEAP Interim assessments, teachers may determine to split these over 2-3 days.
- Teachers should administer each topic diagnostic and analyze results 1 – 2 weeks before the module begins.
- The Eureka Math LEAP 360 Diagnostic Mapping can also be used to support teachers in identifying where students may have unfinished learning and need additional supports.

	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Week 1	FLEX	FLEX	1.1-A	1.2-A	1.3-A
Week 2	1.5-A	Alg 1 ER Tool[1] Diagnostic: Module 1, Topic B	FLEX	FLEX	FLEX
Week 3	1.6-B	*1.7-B	1.8-B	1.9-B	FLEX
Week 4	Alg 1 ER Tool Diagnostic: Module 1, Topic C	FLEX	FLEX	FLEX	1.10-C
Week 5	1.11-C	1.12-C	1.13-C	1.14-C	1.17-C
Week 6	1.19-C	1.20-C	1.21-C	1.22-C	1.23-C
Week 7	1.24-C	Alg 1 ER Tool Diagnostic: Module 1, Topic	FLEX	FLEX	FLEX

[1] Algebra I ER Tools are posted in a zip folder here. Download the folder to access the Diagnostic Assessment for each module shown.

		D			
Week 8	1.25-D	1.28-D	Alg 1 ER Tool[1] Diagnostic: Module 2, Topic A	FLEX	FLEX
Week 9	FLEX	*2.1-A	2.2-A	2.3-A	FLEX
Week 10	2.4-B	2.5-B	2.6-B	2.7-B	2.8-B
Week 11	Alg 1 ER Tool Diagnostic: Module 2, Topic C	FLEX	FLEX	FLEX	2.9-C
Week 12	2.10-C	2.11-C	Alg 1 ER Tool Diagnostic: Module 2, Topic D	FLEX	FLEX
Week 13	FLEX	*2.12-D	2.13-D	2.14-D	2.15-D
Week 14	2.16-D	2.17-D	2.18-D	2.19-D	2.20-D
Week 15	Alg 1 ER Tool Diagnostic: Module 3, Topic A	FLEX	FLEX	FLEX	3.1-A
Week 16	3.3-A	3.4-A	3.5-A	3.6-A	3.7-A
Week 17	Alg 1 ER Tool Diagnostic: Module 3, Topic B	FLEX	FLEX	FLEX	3.8-B
Week 18	3.9-B	3.10-B	3.11-B	3.12-B	3.13-B
Week 19	3.14-B	FLEX	A1 LEAP 360 Interim Form 1	FLEX	FLEX
Week 20	FLEX	FLEX	3.15-C	3.16-C	3.17-C
Week 21	3.18-C	3.19-C	3.20-C	3.21-D	3.22-D
Week 22	3.23-D	FLEX	FLEX	FLEX	FLEX
Week 23	Alg 1 ER Tool [2]Diagnostic:	FLEX	FLEX	FLEX	4.1-A

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[2] Algebra I ER Tools are posted in a zip folder here. Download the folder to access the Diagnostic Assessment for each module shown.

	Module 4, Topic A				
Week 24	4.2-A	4.3-A	4.4-A	4.5-A	4.6-A
Week 25	4.7-A	4.8-A	4.9-A	4.10-A	A1 LEAP 360 Interim Form 2
Week 26	FLEX	4.11-B	4.12-B	4.13-B	4.14-B
Week 27	4.15-B	4.16-B	4.17-B	4.19-C	4.20-C
Week 28	4.21-C	4.22-C	4.23-C	4.24-C	FLEX
Week 29	FLEX	FLEX	FLEX	FLEX	FLEX
Week 30	FLEX	FLEX	FLEX	FLEX	FLEX
Week 31	5.1-A	5.2-A	5.3-A	5.4-B	5.5-B
Week 32	5.6-B	5.7-B	5.8-B	5.9-B	FLEX
Week 33	Reserved for state testing (dates will vary)				
Week 34	To best prepare your students for success in future math courses, use this time to continue pursuing mastery of A1: A-REI.B.4a. If students have mastered completing the square, enrichment lessons 1.4-A, 1.26-D, 1.27-D, 3.2-A, 3.24-D, and 4.18-C may prove advantageous for preparing students for future success.				
Week 35					
Week 36					

Alternative Sequence for **Intensive** Algebra

Due to the nature of the standards for Algebra I, there exist many logical, coherent sequences to teach the standards. The sequence Eureka has provided is a viable sequence; however, beginning the year with an overview of the functions learned in this course has proven to be quite challenging for many students and teachers. Thus, an alternative sequence has been provided.

Note, for more information/rationale around the lessons identified as "optional," see the Notes/Rationale for Action column found in the Overview of Lessons portion in this document.

1. Module 1, Topic C (Lessons 15-16, 18 optional for enrichment)
2. Module 1, Topic D (Lessons 26-27 optional for enrichment)
3. Module 3, Topic A (Lesson 2 optional for enrichment)
4. Module 1, Topic A (Lessons 1 and 3 only)
5. Module 3, Topic B (all Lessons)
6. Module 1, Topic B (Lesson 7 optional for remediation)
7. Module 1, Topic A (Lessons 2 only)
8. Module 4, Topic A (all Lessons)
9. Module 4, Topic B (all Lessons)
10. Module 3, Topic C (all Lessons)
11. Module 4, Topic C (Lesson 18 optional for enrichment)
12. Module 3, Topic D (Lesson 24 optional for enrichment)
13. Module 2, Topic C (all Lessons)
14. Module 2, Topic D (all Lessons)
15. Module 5, Topic A (all Lessons)
16. Module 5, Topic B (all Lessons)
17. Module 2, Topic A (all Lessons)
18. Module 2, Topic B (all Lessons)

Sample Year-Long Schedule for Math Instruction – Alternative Sequence
Eureka **Intensive** Algebra I

The following sample schedule integrates the Eureka curriculum, Eureka Remediation Tools, LEAP 360 Interim Assessments and flex days to allow teachers to move at a pace that best supports student learning. Flex days could be used for remediation, enrichment lessons, assessment, or other instructional activities. This sample should be used to guide instructional timing but should not dictate exactly what lesson a teacher should be on during a given day. The guidance has been broken into 9 weeks, as this is the calendar that most Louisiana schools systems follow.

- Coding: 1.1-A represents Module 1.Lesson 1-Topic A
- Lessons marked as "optional for remediation" have been marked by *. Teachers should determine best use of these lessons based on their students.
- Lessons marked as "optional for enrichment" have not been included in this calendar. Teachers may determine to use these during "flex" days.
- Even though only one day on this calendar has been marked for the LEAP Interim assessments, teachers may determine to split these over 2-3 days.
- The Eureka Math LEAP 360 Diagnostic Mapping can also be used to support teachers in identifying where students may have unfinished learning and need additional supports.

	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Week 1	FLEX	Alg 1 ER Tool[1] Diagnostic: Module 1, Topic C	FLEX	FLEX	FLEX
Week 2	FLEX	1.10-C	1.11-C	1.12-C	1.13-C
Week 3	1.14-C	1.17-C	1.19-C	1.20-C	1.21-C
Week 4	1.22-C	1.23-C	1.24-C	Alg 1 ER Tool Diagnostic: Module 1, Topic D	FLEX
Week 5	FLEX	FLEX	1.25-D	1.28-D	Alg 1 ER Tool Diagnostic: Module 3, Topic A
Week 6	FLEX	FLEX	FLEX	3.1-A	3.3-A
Week 7	3.4-A	3.5-A	3.6-A	3.7-A	1.1-A

[1] Algebra I ER Tools are posted in a zip folder here. Download the folder to access the Diagnostic Assessment for each module shown.

Week 8	1.3-A	Alg 1 ER Tool [1] Diagnostic: Module 3, Topic B	FLEX	FLEX	FLEX
Week 9	3.8-B	3.9-B	3.10-B	3.11-B	3.12-B
Week 10	3.13-B	3.14-B	A1 LEAP 360 Interim Form 1	FLEX	Alg 1 ER Tool Diagnostic: Module 1, Topic B
Week 11	FLEX	FLEX	FLEX	1.6-B	*1.7-B
Week 12	1.8-B	1.9-B	FLEX	1.2-A	Alg 1 ER Tool Diagnostic: Module 4, Topic A
Week 13	FLEX	FLEX	FLEX	4.1-A	4.2-A
Week 14	4.3-A	4.4-A	4.5-A	4.6-A	4.7-A
Week 15	4.8-A	4.9-A	4.10-A	FLEX	FLEX
Week 16	FLEX	FLEX	FLEX	FLEX	FLEX
Week 17	FLEX	FLEX	FLEX	FLEX	A1 LEAP 360 Interim Form 2
Week 18	4.11-B	4.12-B	4.13-B	4.14-B	4.15-B
Week 19	4.16-B	4.17-B	FLEX	3.15-C	3.16-C
Week 20	3.17-C	3.18-C	3.19-C	3.20-C	FLEX
Week 21	4.19-C	4.20-C	4.21-C	4.22-C	4.23-C
Week 22	4.24-C	FLEX	3.21-D	3.22-D	3.23-D
Week 23	FLEX	FLEX	FLEX	FLEX	4.23-C
Week 24	FLEX	FLEX	FLEX	FLEX	3.23-D

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Week 25	FLEX	FLEX	Alg 1 ER Tool [1]Diagnostic: Module 2, Topic C	FLEX	FLEX
Week 26	FLEX	2.9-C	2.10-C	2.11-C	Alg 1 ER Tool Diagnostic: Module 2, Topic D
Week 27	FLEX	FLEX	FLEX	*2.12-D	2.13-D
Week 28	2.15-D	2.16-D	2.17-D	2.18-D	2.19-D
Week 29	2.20-D	FLEX	5.1-A	5.2-A	5.3-A
Week 30	5.4-B	5.5-B	5.6-B	5.7-B	5.8-B
Week 31	5.9-B	Alg 1 ER Tool Diagnostic: Module 2, Topic A	FLEX	FLEX	FLEX
Week 32	*2.1-A	2.2-A	2.3-A	2.4-B	2.5-B
Week 33	2.6-B	2.7-B	2.8-B	FLEX	FLEX
Week 34	Reserved for state testing (dates will vary)				
Week 35	To best prepare your students for success in future math courses, use this time to continue pursuing mastery of A1: A-REI.B.4a. If students have mastered completing the square, enrichment lessons 1.4-A, 1.26-D, 1.27-D, 3.2-A, 3.24-D, and 4.18-C may prove advantageous for preparing students for future success.				
Week 36					

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Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Louisiana Standards for Mathematical Practice.

To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade ( ). Supporting work ( ) and, where appropriate, additional work ( ) can engage students in the major work of the grade.

Overview of Lessons

Eureka Math modules are separated into topics (divided by black lines) and lessons. This section is devoted to helping teachers identify the standards on which each lesson is focused, whether on grade level or not. The grade level standards are color-coded to denote their focus. Again, this alignment does not explicitly align to the alignment guidance provided in Eureka Math. Furthermore, not every lesson is entirely focused on grade level standards, and, as such, many lessons can be used for either remediation or enrichment. In this section you will also find notes on specific lessons that can be used for differentiation, along with details/rationale for the recommended action. An asterisk is used to denote a standard that is not addressed in its entirety in that single lesson. The part(s) of the standard that are addressed are directly quoted from the LSSM standard and are shown in purple.

Module 1: Relationships Between Quantities and Reasoning with Equations and Their Graphs

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
1.1-A	A1: N-Q.A.1*, A1: N-Q.A.2, A1: F-IF.B.4, A1: F-IF.B.6		O	• This Lesson includes using units as a way to understand problems; choosing and interpreting the scale and the origin in graphs which will lead to mastery of A1: N-Q.A.1.
1.2-A	A1: N-Q.A.1*, A1: N-Q.A.2, A1: F-IF.B.4, A1: F- IF.B.6		O	• This Lesson includes using units as a way to understand problems; choosing and interpreting the scale and the origin in graphs which will lead to mastery of A1: N-Q.A.1. • It should be noted that this Lesson assumes students know and understand function notation which may not be the case if teachers taught within the boundaries of the Standards as function notation is not the expectation until Algebra I, A1: F-IF.A.2.
1.3-A	A1: N-Q.A.1*, A1: F-IF.B.4		O	• This Lesson includes using units as a way to understand problems; choosing and interpreting the scale and the origin in graphs which will lead to mastery of A1: N-Q.A.1.
1.4-A	A1: N-Q.A.1*, A1: N-Q.A.2	A2: F-IF.B.4	E	• This Lesson includes using units as a way to understand problems; choosing and interpreting the scale and the origin in graphs which will lead to mastery of A1: N-Q.A.1. • This Lesson focuses on analyzing graphs of periodic relationships which is beyond the explicit expectation of the Algebra I standards. The decisions to use this Lesson should be made at the teacher level.
1.5-A	A1: A-CED.A.2, A1: A-REI.C.6, A1: F-IF.B.4	8.EE.C.8	O	
1.6-B	A1: A-APR.A.1*	6.EE.A.3	O	• This Lesson includes multiplying polynomials which will lead to mastery of A1: A-APR.A.1.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
1.7-B	A1: A-APR.A.1*	6.EE.A.3, 6.EE.A.4, 8.EE.A.1	R	• This Lesson includes multiplying polynomials which will lead to mastery of A1: A-APR.A.1. • It should be noted that this Lesson extends students' work with integer exponents from numerical expressions in Grade 8 to algebraic expressions. • Reserve these Lessons to be used with students who need a review of Grade 6 concepts related to equivalent expressions prior to engaging with Algebra I concepts.
1.8-B	A1: A-APR.A.1	6.EE.A.2c	O	• It should be noted that these Lessons introduce and expect students to use the standard form of a polynomial expression as well as the degree of a polynomial expression which are not the expectation of the standards for any grade/course.
1.9-B	A1: A-SSE.A.2, A1: A-APR.A.1		O	
1.10-C		6.EE.B.5, 8.EE.C.7a	O	• This Lesson reengages students with Grade 6 and 8 concepts, then applies them to problems more complex than what students experienced in those grades. The decision to use this Lesson should be made at the teacher level. • It should be noted that this Lesson introduces the term 'domain' but does son absent of the context of functions. • It should be noted that problems #13-32 on the Problem Set require a great deal of number sense and/or algebraic skills that most students will not have at this point in the year.
1.11-C		6.EE.A.4, 6.EE.B.5, 8.EE.C.7a	O	This Lesson reengages students with Grade 6 and 8 concepts, then applies them to problems more complex than what students experienced in those grades. The decision to use this Lesson should be made at the teacher level.
1.12-C	A1: A-REI.A.1, A1: A-REI.B.3*	6.EE.B.5, 8.EE.C.7b, A2: A-REI.A.2	O	• This Lesson includes solving linear equations in one variable which will lead to mastery of A1: A-REI.B.3. • It should be noted that problem #4 on the Problem Set requires students to factor a trinomial, which students are not equipped to do at this point in the year.
1.13-C	A1: A-REI.A.1, A1: A-REI.B.3*	6.EE.B.5	O	• This Lesson focuses on solving linear equations in one variable which will lead to mastery of A1: A-REI.B.3.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
1.14-C	A1: A-REI.B.3*		O	• This Lesson focuses on solving linear inequalities in one variable which will lead to mastery of A1: A-REI.B.3.
1.15-C			E	• These Lessons focus on solving compound equations and/or inequalities which is not the explicit expectation of the standards for any grade/course.
1.16-C			E	
1.17-C	A1: A-REI.B.4b*		O	• This Lesson focuses on solving quadratic equations by factoring which will lead to mastery of A1: A-REI.B.4b. • It should be noted that problem #1d on the Problem Set requires students to factor a trinomial, which students are not equipped to do at this point in the year.
1.18-C		A2: A-REI.A.2	E	• This Lesson focuses on solving simple rational equations in one variable.
1.19-C	A1: A-CED.A.4, A1: A-REI.B.3*		O	• This Lesson focuses on solving linear equations in one variable,including equations with coefficients represented by letters which will lead to mastery of A1: A-REI.B.3.
1.20-C	A1: A-CED.A.2, A1: A-REI.D.10		O	
1.21-C	A1: A-REI.D.12*		O	• This Lesson focuses on graphing the solutions to a linear inequality in two variables as a half-plane which will lead to mastery of A1: A-REI.D.12. • It should be noted that Exercise 3 asks students to graph non-linear inequalities which are above the explicit expectation of the A1: A-REI standards. The decision to include such problems should be made at the teacher level.
1.22-C	A1: A-REI.C.6, A1: A-REI.D.12		O	
1.23-C	A1: A-REI.C.5		O	

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
1.24-C	A1: N-Q.A.1*, A1: A-CED.A.3, A1: A-REI.C.6, A1: A-REI.D.12		O	• This Lesson includes choosing and interpreting the scale and the origin in graphs which will lead to mastery of A1: N-Q.A.1.
1.25-D	A1: A-CED.A.1, A1: A-REI.B.3		O	
1.26-D		A2: F-BF.A.2	E	• This Lesson focuses on developing students understanding of recursive processes and using them to solve a modeling task.
1.27-D	A1: A-CED.A.1, A1: A-CED.A.3	A2: F-BF.A.2	E	• This Lesson focuses on formalizing students understanding of recursive processes and using them to solve a modeling task.
1.28-D			O	• It should be noted that, although this Lesson doesn't align with the explicit expectations of the Algebra standards, it does provide students an opportunity to engage in the modeling cycle. The decision to use this Lesson should be made at the teacher level.

Module 2: Descriptive Statistics

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
2.1-A		6.SP.A.2, 6.SP.B.4	R	• Reserve this Lesson to be used with students who need a review of Grade 6 concepts related to data distributions prior to engaging with Algebra I concepts.
2.2-A	A1: S-ID.A.3		O	
2.3-A	A1: S-ID.A.3	6.SP.B.4	O	
2.4-B	A1: S-ID.A.3	6.SP.B.5c, 7.SP.B.4	O	
2.5-B	A1: S-ID.A.3		O	
2.6-B	A1: S-ID.A.3		O	
2.7-B	A1: S-ID.A.3	6.SP.B.4, 6.SP.B.5	O	
2.8-B	A1: S-ID.A.2		O	
2.9-C	A1: S-ID.B.5	7.SP.A.1, 8.SP.A.4	O	
2.10-C	A1: S-ID.B.5		O	
2.11-C	A1: S-ID.B.5, A1: S-ID.C.9		O	
2.12-D		8.SP.A.1	R	• Reserve this Lesson to be used with students who need a review of Grade 8 concepts related to scatter plots prior to engaging with Algebra I concepts.
2.13-D	A1: S-ID.B.6a	8.SP.A.3, A2: S-ID.B.6a	O	• It should be noted that, although quadratic and exponential functions were introduced in Module 1, Topic A, students may not immediately connect to these functions.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
2.14-D	A1: S-ID.B.6a, A1: S-ID.B.6c, A1: S-ID.C.7	8.SP.A.2	O	
2.15-D	A1: S-ID.B.6		O	
2.16-D	A1: S-ID.B.6		O	
2.17-D	A1: S-ID.B.6b		O	
2.18-D	A1: S-ID.B.6b		O	
2.19-D	A1: S-ID.C.8, A1: S-ID.C.9		O	
2.20-D	A1: S-ID.B.6c, A1: S-ID.C.7, A1: S-ID.C.8, A1: S-ID.C.9		O	

Module 3: Linear and Exponential Functions (see Additional Notes section below)

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
3.1-A	A1: F-IF.A.2*, A1: F-IF.A.3*	A2: F-BF.A.2*	O	• This Lesson includes using function notation and evaluating functions for inputs in their domains which will lead to mastery of A1: F-IF.A.2. • This Lesson includes recognizing that sequences are functions which will lead to mastery of A1: F-IF.A.3. • It should be noted that, although this Lesson has a heavy emphasis on writing arithmetic and geometric sequences with an explicit formula, this Lesson does develop understanding essential to mastering several of the A1: F standards.
3.2-A	A1: A-SSE.A.1b, A1: F-IF.A.2	A2: F-BF.A.2*	E	• This Lesson focuses on writing arithmetic and geometric sequences both recursively and with an explicit formula.
3.3-A	A1: A-SSE.A.1a, A1: A-SSE.A.1b, A1: F-IF.A.2*, A1: F-IF.A.3	A2: F-BF.A.2*	O	• This Lesson includes using function notation and evaluating functions for inputs in their domains which will lead to mastery of A1: F-IF.A.2. • It should be noted that this Lesson includes problems involving writing arithmetic and geometric sequences both recursively and with an explicit formula which are beyond the explicit expectations of A1: F-IF.A.2. The decision to include such problems should be made at the teacher level, dependent upon the implementation of Lesson 3.2.
3.4-A	A1: N-Q.A.3, A1: F-IF.A.2*, A1: F-LE.A.1b, A1: F-LE.A.1c		O	• This Lesson includes using function notation and evaluating functions for inputs in their domains which will lead to mastery of A1: F-IF.A.2.
3.5-A	A1: F-IF.A.2*, A1: F-IF.A.3, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2, A1: F-LE.A.3	A2: F-BF.A.2*	O	• This Lesson includes using function notation and evaluating functions for inputs in their domains which will lead to mastery of A1: F-IF.A.2. • It should be noted that, although this Lesson includes problems aimed at writing arithmetic and geometric sequences with an explicit formula, students can engage with such problems in a way that leads to mastery of A1: F-BF.A.1a and A1: F-LE.A.2.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
3.6-A	A1: N-Q.A.1*, A1: F-IF.A.2*, A1: F-IF.B.4, A1: F-IF.B.6, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2, A1: F-LE.A.3	A2: F-BF.A.2*	O	• This Lesson includes using units as a way to understand problems; interpreting the scale and the origin in graphs which will lead to mastery of A1: N-Q.A.1. • This Lesson includes using function notation and evaluating functions for inputs in their domains which will lead to mastery of A1: F-IF.A.2. • It should be noted that, although this Lesson includes problems aimed at writing arithmetic and geometric sequences with an explicit formula, students can engage with such problems in a way that leads to mastery of A1: F-BF.A.1a and A1: F-LE.A.2.
3.7-A	A1: F-IF.A.2*, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2, A1: F-LE.B.5	A2: F-BF.A.2*	O	• This Lesson includes using function notation and evaluating functions for inputs in their domains which will lead to mastery of A1: F-IF.A.2. • It should be noted that, although this Lesson includes problems aimed at writing arithmetic and geometric sequences with an explicit formula, students can engage with such problems in a way that leads to mastery of A1: F-BF.A.1a and A1: F-LE.A.2.
3.8-B	A1: F-IF.A.2	A2: F-BF.A.2*	O	
3.9-B	A1: F-IF.A.1*, A1: F-IF.A.2, A1: F-IF.A.3*		O	• This Lesson focuses on understanding that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range; if f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x which will lead to mastery of A1: F-IF.A.1. • This Lesson includes (in the Problem Set only) recognizing that sequences are functions whose domain is a subset of the integers which will lead to mastery of A1: F-IF.A.3.
3.10-B	A1: F-IF.A.1*, A1: F-IF.A.2		O	• This Lesson focuses on understanding that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range; if f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x which will lead to mastery of A1: F-IF.A.1.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
3.11-B	A1: F-IF.A.2*, A1: F-IF.C.7a*	A2: F-IF.C.7c*	O	• This Lesson includes using function notation and evaluating functions for inputs in their domains which will lead to mastery of A1: F-IF.A.2. • This Lesson includes graphing linear and quadratic functions which will lead to mastery of A1: F-IF.C.7a.
3.12-B	A1: F-IF.A.1, A1: F-IF.A.2, A1: F-IF.B.4*, A1: F-IF.C.7a*	A2: F-IF.C.7c*	O	• This Lesson includes interpreting key features of graphs which will lead to mastery of A1: F-IF.B.4. • This Lesson includes graphing linear and quadratic functions which will lead to mastery of A1: F-IF.C.7a.
3.13-B	A1: N-Q.A.1, A1: F-IF.B.4	A2: F-IF.B.4	O	• It should be noted that, although this Lesson does include graphs of functions that are not explicitly stated in A1: F-IF.B.4, the understanding developed in this Lesson should lead to mastery of A1: F-IF.B.4.
3.14-B	A1: F-IF.A.2, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2, A1: F-LE.A.3		O	
3.15-C	A1: A-REI.D.10, A1: F-IF.A.1, A1: F-IF.C.7b*	A2: F-IF.C.7b*	O	• This Lesson includes graphing piecewise linear (to include absolute value) functions which will lead to mastery of A1: F-IF.C.7b. • It should be noted that the Opening Exercise assumes students know how to solve absolute value equations in one variable; however, this is not the explicit expectation of the standards for any grade/course. Students may need additional support prior to and/or at the beginning of this Lesson. • It should also be noted that Exploratory Challenge 2 introduces students to step functions, an explicit expectation of A2: F-IF.C.7b. The decision to use this portion of the Lesson (and any other portion focused on step functions) should be made at the teacher level.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
3.16-C	A1: A-REI.D.11, A1: F-IF.C.7a*, A1: F-IF.C.7b	A2: F-IF.C.7b*, A2: F-IF.C.7c*	O	• This Lesson includes graphing linear functions which will lead to mastery of A1: F-IF.C.7a. • It should be noted that #2 on the Problem Set requires students to graph functions beyond the explicit expectation of A1: F-IF.C.7. The decision to include and/or adapt such problems should be made at the teacher level.
3.17-C	A1: F-IF.C.7b*, A1: F-BF.B.3*	A2: F-BF.B.3	O	• This Lesson includes graphing absolute value functions which will lead to mastery of A1: F-IF.C.7b. • This Lesson includes identifying the effect on the graph of replacing $f(x)$ by $f(x) + k$ and $kf(x)$ for specific values of k (both positive and negative) which will lead to mastery of A1: F-BF.B.3. • It should be noted that this Lesson includes finding the value of k given the graphs (without technology) of absolute value functions which is beyond the explicit expectation of A1: F-BF.B.3. The decision to include and/or adapt these problems should be made at the teacher level.
3.18-C	A1: F-IF.C.7b*, A1: F-BF.B.3*	A2: F-BF.B.3	O	• This Lesson includes graphing absolute value functions which will lead to mastery of A1: F-IF.C.7b. • This Lesson includes identifying the effect on the graph of replacing $f(x)$ by $f(x + k)$ for specific values of k (both positive and negative) which will lead to mastery of A1: F-BF.B.3. • It should be noted that this Lesson includes finding the value of k given the graphs (without technology) of absolute value functions which is beyond the explicit expectation of A1: F-BF.B.3. The decision to include and/or adapt these problems should be made at the teacher level.
3.19-C	A1: F-IF.C.7a*, A1: F-IF.C.7b*, A1: F-BF.B.3*		O	• This Lesson includes graphing quadratic functions which will lead to mastery of A1: F-IF.C.7a. • This Lesson includes graphing exponential functions which will lead to mastery of A1: F-IF.C.7b. • This Lesson includes identifying the effect on the graph of replacing $f(x)$ by $f(kx)$ for specific values of k (both positive and negative) which will lead to mastery of A1: F-BF.B.3.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
3.20-C	A1: F-IF.C.7b*, A1: F-BF.B.3		O	• This Lesson includes graphing piecewise linear functions which will lead to mastery of A1: F-IF.C.7b.
3.21-D	A1: A-SSE.A.1a, A1: A-SSE.A.1b, A1: F-IF.A.2, A1: F-IF.C.7a*, A1: F-IF.C.7b*, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2, A1: F-LE.A.3		O	• This Lesson includes graphing linear functions which will lead to mastery of A1: F-IF.C.7a. • This Lesson includes graphing exponential functions which will lead to mastery of A1: F-IF.C.7b.
3.22-D	A1: F-IF.B.6, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2, A1: S-ID.B.6a		O	
3.23-D	A1: F-IF.C.7b*, A1: F-BF.A.1a, A1: F-LE.A.2, A1: F-LE.B.5		O	• This Lesson includes graphing exponential functions which will lead to mastery of A1: F-IF.C.7b.
3.24-D	A1: F-IF.A.2, A1: F-IF.C.7b*		E	• This Lesson includes graphing piecewise linear functions which will lead to mastery of A1: F-IF.C.7b. • This Lesson focuses on students completing the modeling cycle using their knowledge of piecewise linear functions, primarily step functions.

Module 4: Polynomial and Quadratic Expressions, Equations, and Functions

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
4.1-A	A1: A-SSE.A.2, A1: A-SSE.B.3a*, A1: A-APR.A.1*		O	• These Lessons include factoring a quadratic expression which will lead to mastery of A1: A-SSE.B.3a. • These Lessons include multiplying polynomials which will lead to mastery of A1: A-APR.A.1.
4.2-A	A1: A-SSE.A.2, A1: A-SSE.B.3a*, A1: A-APR.A.1*		O	
4.3-A	A1: A-SSE.A.1, A1: A-SSE.A.1b, A1: A-SSE.A.2, A1: A-SSE.B.3a*, A1: A-APR.A.1*		O	
4.4-A	A1: A-SSE.A.1, A1: A-SSE.A.1b, A1: A-SSE.A.2, A1: A-SSE.B.3a*		O	• This Lesson includes factoring a quadratic expression which will lead to mastery of A1: A-SSE.B.3a.
4.5-A	A1: A-CED.A.1, A1: A-CED.A.3*, A1: A-REI.B.4b*		O	• This Lesson includes interpreting solutions as viable or nonviable options in a modeling context which will lead to mastery of A1: A-CED.A.3. • This Lesson includes solving quadratic equations by inspection and factoring which will lead to mastery of A1: A-REI.B.4b.
4.6-A	A1: A-SSE.A.1, A1: A-CED.A.1, A1: A-CED.A.3*, A1: A-REI.B.4b*		O	• These Lessons include interpreting solutions as viable or nonviable options in a modeling context which will lead to mastery of A1: A-CED.A.3. • These Lessons include solving quadratic equations by inspection, taking square roots, and factoring, as appropriate to the initial form of the equation which will lead to mastery of A1: A-REI.B.4b.
4.7-A	A1: A-CED.A.1, A1: A-CED.A.3*, A1: A-REI.B.4b*		O	
4.8-A	A1: F-IF.B.4, A1: F-IF.B.6*, A1: F-IF.C.7a		O	• This Lesson includes calculating the average rate of change of a quadratic function over a specified interval which will lead to mastery of A1: F-IF.B.6. • It should be noted that, although A1: F-IF.B.4 and A1: F-IF.C.7a are both modeling standards, this Lesson does not include any contextualized problems. Rather, this Lesson is focused on developing the understanding of quadratic functions are their graphs.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
4.9-A	A1: A-SSE.B.3a, A1: A-APR.B.3, A1: F-IF.A.2, A1: F-IF.B.4, A1: F-IF.B.5, A1: F-IF.C.7a, A1: F-IF.C.8a		O	
4.10-A	A1: F-IF.A.2, A1: F-IF.B.4, A1: F-IF.B.5, A1: F-IF.B.6, A1: F-IF.C.9		O	• It should be noted that, although the students are not provided an opportunity to do so during the Classwork portion of the Lesson, the Problem Set expects students to compare properties of two functions (quadratic) each represented in a different way.
4.11-B	A1: A-SSE.A.2, A1: A-SSE.B.3a*, A1: A-SSE.B.3b*		O	• This Lesson includes factoring a quadratic expression which will lead to mastery of A1: A-SSE.B.3a. • This Lesson includes completing the square in a quadratic expression which will lead to mastery of A1: A-SSE.B.3b.
4.12-B	A1: A-SSE.A.2, A1: A-SSE.B.3a, A1: A-SSE.B.3b, A1: A-CED.A.2*		O	• This Lesson includes creating equations in two variables to represent relationships between quantities which will lead to mastery of A1: A-CED.A.2.
4.13-B	A1: N-RN.B.3, A1: A-REI.B.4a*, A1: A-REI.B.4b*		O	• This Lesson includes completing the square in a quadratic expression which will lead to mastery of A1: A-SSE.B.3b. • This Lesson includes using the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions which will lead to mastery of A1: A-REI.B.4a. • This Lesson includes solving quadratic equations by factoring and completing the square which will lead to mastery of A1: A-REI.B.4b.
4.14-B	A1: A-REI.B.4a, A1: A-REI.B.4b*		O	• This Lesson focuses on solving quadratic equations by completing the square, the quadratic formula, and factoring, as appropriate to the initial form of the equation which will lead to mastery of A1: A-REI.B.4b.
4.15-B	A1: A-REI.B.4b, A1: F-IF.C.8a		O	• It should be noted that this Lesson includes using the discriminant to determine the number of solutions for a quadratic equation which is not an explicit expectation of the standards for any grade/course. The decision to include such problems should be made at the teacher level.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
4.16-B	A1: A-SSE.B.3b, A1: F-IF.C.8a, A1: F-BF.B.3*		O	• This Lesson includes identifying the effect on the graph of replacing *f(x)* by *f(x + k)* for specific values of k (both positive and negative) which will lead to mastery of A1: F-BF.B.3.
4.17-B	A1: A-SSE.B.3a, A1: A-SSE.B.3b, A1: F-IF.A.2, A1: F-IF.B.4, A1: F-IF.B.5, A1: F-IF.B.6, A1: F-IF.C.7a, A1: F-IF.C.8a		O	
4.18-C	A1: F-IF.B.5, A1: F-BF.B.3*	A2: F-IF.C.7b, A2: F-IF.C.7c, A2: F-BF.B.3	E	• This Lesson includes identifying the effect on the graph of replacing *f(x)* by *f(x) + k* for specific values of k (both positive and negative) which will lead to mastery of A1: F-BF.B.3.
4.19-C	A1: F-IF.C.7a, A1: F-IF.C.7b, A1: F-BF.B.3	A2: F-IF.C.7b, A2: F-BF.B.3	O	• It should be noted that these Lessons include problems involving root and polynomial functions which are beyond the explicit expectations of the A1: F-IF standards. The decision to include such problems should be made at the teacher level, dependent upon the implementation of Lesson 4.18.
4.20-C	A1: F-IF.C.7a, A1: F-IF.C.7b, A1: F-BF.B.3	A2: F-IF.C.7b, A2: F-IF.C.7c, A2: F-BF.B.3	O	
4.21-C	A1: A-SSE.B.3b, A1: F-IF.C.8a*, A1: F-BF.B.3*		O	• This Lesson includes using the process of completing the square in a quadratic function to show extreme values which will lead to mastery of A1: F-IF.C.8a. • This Lesson focuses on identifying the effect on the graph of replacing *f(x)* by *f(x) + k* for specific values of k (both positive and negative) and, without technology, finding the value of k given the graphs of quadratic functions which will lead to mastery of A1: F-BF.B.3.
4.22-C	A1: F-IF.B.4, A1: F-IF.B.6, A1: F-IF.C.9	A2: F-IF.C.7b, A2: F-IF.C.7c, A2: F-IF.C.9, A2: F-BF.B.3, A2: S-ID.B.6a	O	• It should be noted that this Lesson includes problems involving root and polynomial functions which are beyond the explicit expectations of the A1: F-IF standards. The decision to include such problems should be made at the teacher level, dependent upon the implementation of Lesson 4.18.

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
4.23-C	A1: N-Q.A.1, A1: N-Q.A.2, A1: A-SSE.B.3a, A1: A-SSE.B.3b, A1: A-CED.A.2, A1: F-IF.A.2, A1: F-IF.B.4, A1: F-IF.C.7a, A1: F-IF.C.8a*,		O	
4.24-C	A1: A-CED.A.2, A1: A-REI.B.4, A1: A-REI.C.6, A1: F-IF.C.7a		O	

Module 5: A Synthesis of Modeling with Equations and Functions

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
5.1-A	A1: N-Q.A.1*, A1: F-IF.B.4, A1: F-IF.B.5, A1: F-IF.B.6, A1: F-BF.A.1a, A1: F-BF.B.3*, A1: F-LE.A.2	A2: F-IF.B.4, A2: F-IF.B.6, A2: F-BF.A.1, A2: F-BF.B.3*	O	• This Lesson includes using units as a way to understand problems which will lead to mastery of A1: N-Q.A.1. • This Lesson includes identifying the effect on the graph of replacing *f(x)* by *f(x) + k* for specific values of k (both positive and negative) and, without technology, finding the value of k given the graphs of quadratic functions which will lead to mastery of A1: F-BF.B.3. • It should be noted that this Lesson includes problems involving cubic, square root, and cube root functions which are beyond the explicit expectations of the A1: F-IF standards. The decision to include such problems should be made at the teacher level.
5.2-A	A1: N-Q.A.1*, A1: F-IF.B.4, A1: F-IF.B.5, A1: F-IF.B.6, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2		O	• This Lesson includes using units as a way to understand problems which will lead to mastery of A1: N-Q.A.1.
5.3-A	A1: N-Q.A.1*, A1: N-Q.A.2, A1: A-CED.A.3*, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2		O	• This Lesson includes using units as a way to understand problems which will lead to mastery of A1: N-Q.A.1. • This Lesson includes representing constraints by equations or inequalities which will lead to mastery of A1: A-CED.A.3.
5.4-B	A1: N-Q.A.2, A1: F-IF.B.4, A1: F-IF.B.5, A1: F-IF.B.6, A1: F-IF.C.8, A1: F-IF.C.9, A1: F-BF.A.1a		O	• It should be noted that this Lesson includes problems involving cubic, square root, and cube root functions which are beyond the explicit expectations of the A1: F-IF standards. The decision to include such problems should be made at the teacher level.
5.5-B	A1: N-Q.A.2, A1: F-IF.A.2, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2		O	

Lesson	Course Level Content Standards	Standards from other Grades	Action	Notes/Rationale for Action
5.6-B	A1: N-Q.A.2, A1: N-Q.A.3, A1: A-REI.C.6, A1: F-IF.A.2, A1: F-IF.B.4, A1: F-BF.A.1a, A1: F-LE.A.1b, A1: F-LE.A.1c, A1: F-LE.A.2, A1: S-ID.B.6a		O	
5.7-B	A1: N-Q.A.3, A1: F-IF.A.2, A1: F-IF.B.5, A1: S-ID.B.6, A1: S-ID.B.6a, A1: S-ID.B.6c, A1: S-ID.C.8		O	• It should be noted that this Lesson includes interpreting the coefficient of determination (i.e., r^2) which is not the explicit expectation of the standards for any grade/course.
5.8-B			O	• It should be noted that these Lessons focus on students completing the modeling cycle and, as such, allow for more flexibility in how students engage with the problems. The standards targeted in this Lesson largely depend on how students approach the problems/tasks; therefore, although these Lessons focus on grade level content, it doesn't make sense to identify target standards.
5.9-B			O	

Additional Notes on Eureka-Specific Strategies/Representations

In Module 3, Topic A, the understanding and skills needed to master A1: F-BF.A.1a and A1: F-LE.A.2 are developed through a study of sequences, predominantly aligned to A2: F-BF.A.2. Many problems expect students to build functions by first building sequences; however, students are not expected to build functions from sequences until Algebra II. In Algebra I, students are not required to first build sequences when creating functions from graphs, verbal descriptions, and/or two input-output pairs. The decision to use and/or adapt such problems should be made at the teacher level.

In Module 3, Topic A, it is important to note that, "While the word function appears in the student outcomes and teacher notes for this lesson, this term need not be used with students until introduced formally in (Topic B) Lesson 9." (see Module 3, page 82)

In Module 3, Topic B, may of the Lessons include and center around set-builder notation. Although set-builder notation is not an explicit expectation of the standards for any grade/course, the use of set-builder notation should aid in developing the understanding needed to mastery the A1: F-IF standards. Furthermore, set notation is introduced in Module 1, Lesson 11 and used throughout Modules 1 and 3.

Standards by Course

This section aims to further inform teachers on the alignment between Eureka Math and the LSSM. Standards, or parts thereof, highlighted in orange are addressed in Eureka Math but with limited exposure. It is recommended that teachers pay careful attention to these places to ensure students have mastered the standards, or parts thereof, using only Eureka Math. If not, teachers should supplement to ensure mastery for all students. Standards, or parts thereof, highlighted in red are not included in the Eureka Math curriculum thus necessitating the need to supplement to ensure mastery for all students.

Code	Standard
A1: N-RN.B.3	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.
A1: N-Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
A1: N-Q.A.2	Define appropriate quantities for the purpose of descriptive modeling.
A1: N-Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
A1: A-SSE.A.1	Interpret expressions that represent a quantity in terms of its context.*
A1: A-SSE.A.1a	Interpret parts of an expression, such as terms, factors, and coefficients.
A1: A-SSE.A.1b	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.*
A1: A-SSE.A.2	Use the structure of an expression to identify ways to rewrite it. *For example, see* $x^4 - y^4$ *as* $(x^2)^2 - (y^2)^2$*, or see* $2x^2 + 8x$ *as* $(2x)(x) + 2x(4)$*, thus recognizing it as a polynomial whose terms are products of monomials and the polynomial can be factored as* $2x(x+4)$*.*
A1: A-SSE.B.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression
A1: A-SSE.B.3a	Factor a quadratic expression to reveal the zeros of the function it defines.

Code	Standard
A1: A-SSE.B.3b	Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
A1: A-SSE.B.3c	Use the properties of exponents to transform expressions for exponential functions emphasizing integer exponents. *For example, the growth of bacteria can be modeled by either* $f(t) = 3^{(t+2)}$ *or* $g(t) = 9(3^t)$ *because the expression* $3^{(t+2)}$ *can be rewritten as* $(3^t)(3^2) = 9(3^t)$.
A1: A-APR.A.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.
A1: A-APR.B.3	Identify zeros of quadratic functions, and use the zeros to sketch a graph of the function defined by the polynomial.
A1: A-CED.A.1	Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear, quadratic, and exponential functions.*
A1: A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
A1: A-CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*
A1: A-CED.A.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.
A1: A-REI.A.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
A1: A-REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
A1: A-REI.B.4	Solve quadratic equations in one variable.
A1: A-REI.B.4a	Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
A1: A-REI.B.4b	Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as “no real solution.”

Code	Standard
A1: A-REI.C.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
A1: A-REI.C.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
A1: A-REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
A1: A-REI.D.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, piecewise linear (to include absolute value), and exponential functions.*
A1: A-REI.D.12	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
A1: F-IF.A.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
A1: F-IF.A.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
A1: F-IF.A.3	Recognize that sequences are functions whose domain is a subset of the integers. Relate arithmetic sequences to linear functions and geometric sequences to exponential functions.
A1: F-IF.B.4	For linear, piecewise linear (to include absolute value), quadratic, and exponential functions that model 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; and end behavior.**
A1: F-IF.B.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.**

Code	Standard
A1: F-IF.B.6	Calculate and interpret the average rate of change of a linear, quadratic, piecewise linear (to include absolute value), and exponential function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*
A1: F-IF.C.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
A1: F-IF.C.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.
A1: F-IF.C.7b	Graph piecewise linear (to include absolute value) and exponential functions.
A1: F-IF.C.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.
A1: F-IF.C.8a	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.
A1: F-IF.C.9	Compare properties of two functions (linear, quadratic, piecewise linear [to include absolute value] or exponential) 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, determine which has the larger maximum.*
A1: F-BF.A.1	Write a linear, quadratic, or exponential function that describes a relationship between two quantities.*
A1: F-BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.
A1: F-BF.B.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). Without technology, find the value of k given the graphs of linear and quadratic functions. With technology, experiment with cases and illustrate an explanation of the effects on the graph that include cases where $f(x)$ is a linear, quadratic, piecewise linear (to include absolute value) or exponential function.
A1: F-LE.A.1	Distinguish between situations that can be modeled with linear functions and with exponential functions.
A1: F-LE.A.1a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
A1: F-LE.A.1b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
A1: F-LE.A.1c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

Code	Standard
A1: F-LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
A1: F-LE.A.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
A1: F-LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.
A1: S-ID.A.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
A1: S-ID.A.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
A1: S-ID.B.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
A1: S-ID.B.6	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
A1: S-ID.B.6a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear and quadratic models.
A1: S-ID.B.6b	Informally assess the fit of a function by plotting and analyzing residuals.
A1: S-ID.B.6c	Fit a linear function for a scatter plot that suggests a linear association.
A1: S-ID.C.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
A1: S-ID.C.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.
A1: S-ID.C.9	Distinguish between correlation and causation.

Standards by Module

Using the alignment guidance provided in Eureka Math, each module is presented visually, outlining the topics and the standards taught within each topic. The standards are color-coded to denote their focus. Please note that the standards identified by Eureka are not Louisiana Student Standards for Mathematics (LSSM) but are Common Core State Standards for Mathematics (CCSSM).

Module 1: Relationships Between Quantities and Reasoning with Equations and Their Graphs			
Topic A	**Topic B**	**Topic C**	**Topic D**
Introduction to Functions Studied this Year—Graphing Stories	The Structure of Expressions	Solving Equations and Inequalities	Creating Equations to Solve Problems
N-Q.A.1	A-SSE.A.2	A-CED.A.3	N-Q.A.1
N-Q.A.2	A-APR.A.1	A-CED.A.4	A-SSE.A.1
N-Q.A.3		A-REI.A.1	A-CED.A.1
A-CED.A.2		A-REI.B.3	A-CED.A.2
		A-REI.C.5	A-REI.B.3
		A-REI.C.6	
		A-REI.D.10	
		A-REI.D.12	

Module 2: Descriptive Statistics			
Topic A	**Topic B**	**Topic C**	**Topic D**
Shapes and Centers of Distributions	Describing Variability and Comparing Distributions	Categorical Data on Two Variables	Numerical Data on Two Variables
S-ID.A.1	S-ID.A.1	S-ID.B.5	S-ID.B.6
S-ID.A.2	S-ID.A.2	S-ID.C.9	S-ID.C.7
S-ID.A.3	S-ID.A.3		S-ID.C.8

Module 2: Descriptive Statistics			
Topic A	**Topic B**	**Topic C**	**Topic D**
			S-ID.C.9

Module 3: Linear and Exponential Functions			
Topic A	**Topic B**	**Topic C**	**Topic D**
Linear and Exponential Sequences	Functions and Their Graphs	Transformations of Functions	Using Functions and Graphs to Solve Problems
F-IF.A.1	F-IF.A.1	A-REI.D.11	A-CED.A.1
F-IF.A.2	F-IF.A.2	F-IF.C.7a	A-SSE.B.3c
F-IF.A.3	F-IF.B.4	F-BF.B.3	F-IF.B.4
F-IF.B.6	F-IF.B.5		F-IF.B.6
F-BF.A.1a	F-IF.C.7a		F-IF.C.9
F-LE.A.1			F-BF.A.1a
F-LE.A.2			F-LE.A.2
F-LE.A.3			F-LE.B.5

Module 4: Polynomial and Quadratic Expressions, Equations, and Functions		
Topic A	**Topic B**	**Topic C**
Quadratic Expressions, Equations, Functions, and Their Connection to Rectangles	Using Different Forms for Quadratic Functions	Function Transformations and Modeling
A-SSE.A.1	N-RN.B.3	A-CED.A.2
A-SSE.A.2	A-SSE.A.1	F-IF.C.6
A-SSE.B.3a	A-SSE.A.2	F-IF.C.7b
A-APR.A.1	A-SSE.B.3b	F-IF.C.8a
A-REI.B.4b	A-REI.B.4	F-IF.C.9
A-REI.D.11	A-APR.B.3	F-BF.B.3
A-CED.A.1	A-CED.A.1	
A-CED.A.2	A-CED.A.2	
F-IF.B.4	F-IF.B.4	
F-IF.B.5	F-IF.B.6	
F-IF.B.6	F-IF.C.7a	
F-IF.B.7a	F-IF.C.8a	

Module 5: A Synthesis of Modeling with Equations and Functions	
Topic A	**Topic B**
Elements of Modeling	Completing the Modeling Cycle
N-Q.A.2	N-Q.A.2
A-CED.A.2	N-Q.A.3
F-IF.B.4	A-CED.A.1
F-IF.B.5	A-CED.A.2
F-BF.A.1a	F-IF.B.4
F-LE.A.1b	F-IF.B.5
F-LE.A.1c	F-IF.B.6
F-LE.A.2	F-BF.A.1a
	F-LE.A.1b
	F-LE.A.1c
	F-LE.A.2

Standards by Lesson

Eureka Math does not provide a lesson-level alignment to the Louisiana Student Standards for Mathematics (LSSM). Although this work was influenced by the alignment guidance provided in Eureka Math, it does not always align perfectly with the alignment guidance provided in Eureka Math.

The numbers listed denote the Module and Lesson in which a particular standard is addressed. For example, Module 4, Lesson 3 (4.3) helps move students towards mastery of A1: A-SSE.A.1.

Major Work	
A1: A-SSE.A.1	4.3, 4.4, 4.6
A1: A-SSE.A.1a	3.3, 3.21
A1: A-SSE.A.1b	3.2, 3.3, 3.21, 4.3, 4.4
A1: A-SSE.A.2	1.9, 4.1, 4.2, 4.3, 4.4, 4.11, 4.12
A1: A-APR.A.1	1.6, 1.7 (R), 1.8, 1.9, 4.1, 4.2, 4.3
A1: A-CED.A.1	1.25, 1.27 (E), 4.5, 4.6, 4.7
A1: A-CED.A.2	1.5, 1.20, 4.12, 4.23, 4.24
A1: A-CED.A.3	1.24, 1.27 (E), 4.5, 4.6, 4.7, 5.3
A1: A-CED.A.4	1.19

Major Work	
A1: A-REI.A.1	1.12, 1.13
A1: A-REI.B.3	1.12, 1.13, 1.14, 1.19, 1.25
A1: A-REI.B.4	4.24
A1: A-REI.B.4a	4.13, 4.14
A1: A-REI.B.4b	1.17, 4.5, 4.6, 4.7, 4.13, 4.14, 4.15
A1: A-REI.D.10	1.20, 3.15
A1: A-REI.D.11	3.16
A1: A-REI.D.12	1.21, 1.22, 1.24
A1: F-IF.A.1	3.9, 3.10, 3.12, 3.15
A1: F-IF.A.2	3.1, 3.2 (E), 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 3.14, 3.21, 3.24 (E), 4.9, 4.10, 4.17, 4.23, 5.5, 5.6, 5.7
A1: F-IF.A.3	3.1, 3.3, 3.5, 3.9
A1: F-IF.B.4	1.1, 1.2, 1.3, 1.5, 3.6, 3.12, 3.13, 4.8, 4.9, 4.10, 4.17, 4.22, 4.23, 5.1, 5.2, 5.4, 5.6
A1: F-IF.B.5	4.9, 4.10, 4.17, 4.18 (E) 5.1, 5.2, 5.4, 5.7

Major Work	
A1: F-IF.B.6	1.1, 1.2, 3.6, 3.22, 4.8, 4.10, 4.17, 4.22, 5.1, 5.2, 5.4
A1: S-ID.C.7	2.14, 2.20
A1: S-ID.C.8	2.19, 2.20, 5.7
A1: S-ID.C.9	2.11, 2.19, 2.20

Supporting Work	
A1: N-Q.A.1	1.1, 1.2, 1.3, 1.4 (E), 1.24, 3.6, 3.13, 4.23, 5.1, 5.2, 5.3
A1: N-Q.A.2	1.1, 1.2, 1.4 (E),4.23, 5.3, 5.4, 5.5, 5.6
A1: N-Q.A.3	3.4, 5.6, 5.7
A1: A-SSE.B.3	see alignment for A1: A-SSE.B.3a
A1: A-SSE.B.3a	4.1, 4.2, 4.3, 4.4, 4.9, 4.11, 4.12, 4.17, 4.23
A1: A-SSE.B.3b	4.11, 4.12, 4.16, 4.17, 4.21, 4.23
A1: A-SSE.B.3c	
A1: A-APR.B.3	4.9
A1: F-IF.C.7	see alignment for A1: F-IF.C.7a and A1: F-IF.C.7b

Supporting Work	
A1: F-IF.C.7a	3.11, 3.12, 3.16, 3.19, 3.21, 4.8, 4.9, 4.17, 4.19, 4.20, 4.23, 4.24
A1: F-IF.C.7b	3.15, 3.16, 3.17, 3.18, 3.19, 3.20, 3.21, 3.23, 3.24 (E), 4.19, 4.20
A1: F-IF.C.8	see alignment for A1: F-IF.C.8a
A1: F-IF.C.8a	4.9, 4.15, 4.16, 4.17, 4.21, 4.23, 5.4
A1: F-IF.C.9	4.10, 4.22, 5.4
A1: F-BF.A.1	see alignment for A1: F-BF.A.1a
A1: F-BF.A.1a	3.5, 3.6, 3.7, 3.14, 3.21, 3.22, 3.23, 4.16, 4.23, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6
A1: F-LE.A.1	see alignment for A1: F-LE.A.1a
A1: F-LE.A.1a	
A1: F-LE.A.1b	3.4, 3.5, 3.6, 3.7, 3.14, 3.21, 3.22, 5.2, 5.3, 5.5, 5.6
A1: F-LE.A.1c	3.4, 3.5, 3.6, 3.7, 3.14, 3.21, 3.22, 5.2, 5.3, 5.5, 5.6
A1: F-LE.A.2	3.5, 3.6, 3.7, 3.14, 3.21, 3.22, 3.23, 5.1, 5.2, 5.3, 5.5, 5.6
A1: F-LE.A.3	3.5, 3.6, 3.14, 3.21
A1: F-LE.B.5	3.7, 3.23
A1: S-ID.B.5	3.9, 2.10, 2.11
A1: S-ID.B.6	2.15, 2.16, 5.7
A1: S-ID.B.6a	2.13, 2.14, 3.22, 5.6, 5.7
A1: S-ID.B.6b	2.17, 2.18
A1: S-ID.B.6c	2.14, 2.20, 5.7

Additional Work	
A1: N-RN.B.3	4.13
A1: A-REI.C.5	1.23
A1: A-REI.C.6	1.5, 1.22, 1.24, 4.24, 5.6
A1: F-BF.B.3	3.17, 3.18, 3.19, 3.20, 4.16, 4.18, 4.19, 4.20, 4.21, 5.1
A1: S-ID.A.2	2.8
A1: S-ID.A.3	2.2, 2.3, 2.4, 2.5, 2.6, 2.7