

Pacing & Curriculum Guide

Algebra 1B –1200380

Content:

Part I

- ™ Algebra 1B Course Description
- ™ Mathematical Thinking & Reasoning Standards
- ™ 9-12 ELA & ELD Standards
- ™ Proficiency Scale Units Pacing Chart
- ™ Units At-A-Glance 3 D Calendar

Part II

- ™ Teacher & Student Critical Concept Units with B.E.S.T. standards embedded

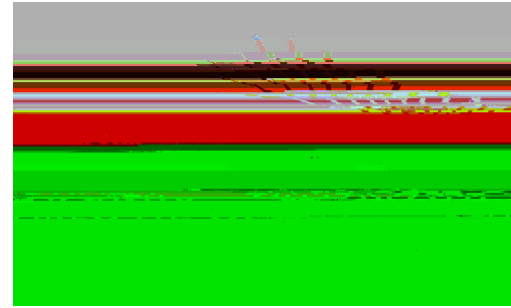
REVISED ~ July 202

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Algebra 1B – Course Code: 1200380

B.E.S.T. Course Description

In Algebra 1 B, instructional time will emphasize four areas: (1)



Clarifications

18

19

20

Mathematical Thinking & Reasoning Standards

MT

MT

MT

MT

Engage in discussions that
reflect on the mathelth131 (atica)l

Pacing Chart

Approximate Time		Critical Concept Unit s	Benchma rks	Critical Concept Unit Overview – Level 3.0
1 st Quarter	21 days	1A Review		Students will: <i>f</i>          
	24 days (co ntinues into Q2)	5 Exponents & Exponential Functions	 _____  <u>1</u>  _____  <u>2</u>  _____  <u>4</u>  _____  _____  _____  _____  _____  _____  _____  _____	

Approximate Time	Critical Concept Unit s	Benchmarks	Critical Concept Unit Overview – Level 3.0
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2 nd Quarter	24 days	6 Polynomials & Factoring	Students will: 6.1:                                       6.2:                                    6.3:                                 
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3rd Quarter

38 days

8
Solving
Quadratic
Functions

















Algebra B Course Code: 12380

Students will:

8.1: 





8.2: 



b, f $\Rightarrow$ 0, b

8.3: 



$=T^6$

$= 0$ or ≥ 0 .

$=T^6 + \geq$ 

d





Year at a Glance SY2024-25

August 2024				
M	T	W	Th	F
12	13	14	15	16
19	20	21	22	23
26	27	28	29	30

	Classroom Expectations
	1A Review

	1A Review
	Topic5: Exponents and Exponential Functions

	Topic5: Exponents and Exponential Functions
	Topic6: Polynomials and Factoring

	Topic6: Polynomials and Factoring
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	Topic 7: Quadratic Functions
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Algebra 1	Teacher Critical Concept Exponents and Exponential Functions	Topic 5
	M.C. Formative Assessment Name: DFA Algebra	MA.912.NSO.1.1, MA.912.NSO.1.2, MA.912.NSO.1.4, MA.912.AR.5.4, MA.912.AR.5.6, MA.912.F.1.1, MA.912.F.1.2, MA.912.F.1.8, MA.912.AR.1.1, MA.912.AR.5.3, MA.912.F.1.3, MA.912.FL.3.2, MA.912.FL.3. 4

9 5.2 : Understand that properties of exponents are used to rewrite radical expressions in different forms. A radical expression is written in the simplest form when there are no perfect square factors other than 1 in the radicand.

o MA.912.NSO.1.4: Apply previous understanding of operations with rational numbers to add, subtract, multiply and divide numerical radicals.

f Clarification 1: Within the Algebra 1 course, r03t m r, r, r 1: W r ar rlg(s)-tminelg(s)to r ahinglsiat rer re (lg(s)t)2 (on)-12 (onc op-7 (er)e-4. (er)t)2 (on)-

0 MA.912 .F.1.8:

	o Clarification 1: Within the Algebra 1 course, exponential growth is limited to compound interest .	
2.5	No major error or omissions regarding score 2.0 content, and partial success at score 3.0 content.	

The student will:

- 9 5.1: Extend the properties of integer exponents to rational exponents to rewrite radical expressions using rational exponents.
- 9 5.1: Use the properties of exponents to generate equivalent algebraic expressions.
- 9 5.1: Write equivalent radical expression to solve problems with rational exponents.
- 9 5.2: Use properties of exponents to rewrite radical expressions.
- 9 5.2: Multiply radical expressions.
- 9 5.2: Write a radical expression to model or represent a real -world problem.
- 9 5.3: Sketch graphs showing key features of exponential functions.
- 9 5.3: Write exponential functions using tables and graphs.
- 9 5.3: Compare linear and exponential functions.
- 9 5.4: Write exponential growth and decay functions given a description of a relationship.
- 9 5.4: Recognize if a situation can be modeled with exponential growth or

2.0

Student Name:	Student Critical Concept	TOPIC 5
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Exponents and Exponential Functions

MA.912.NSO.1.1, MA.912.NSO.1.2,
 MA.912.NSO.1.4, MA.912.AR.5.4,

Optional Enrichment

Algebra 1	Teacher Critical Concept Polynomials and Factoring	Topic 6
	M.C. Formative Assessment Name: DFA Algebra 1 Topic 6 Polynomials and Factoring	MA.912.AR.1.3, MA.912.AR.1.4, MA.912.AR.1.7, MA.912.AR.1.1

4.0	The student will:	Resources & Assignments
3.5	In addition to score 3.0 performance, partial success at score 4.0 content.	

- 3.0

The student will:

9

6.1: Understand that a polynomial is a monomial or the sum or difference of two or more monomials (terms). Polynomials can be added or subtracted by combining like terms. Polynomials are closed under addition or subtraction, similar to integers.

o

MA.912.AR.1.3: Add, subtract and multiply polynomial expressions with rational number coefficients.

f

Clarification 1: Instruction includes an understanding that when any of these operations are performed with polynomials the result is also a polynomial.

f

Clarification 2: Within the Algebra 1 course, polynomial expressions are limited to 3 or fewer terms

9

6.2: Understand that polynomials can be multiplied by applying the Distributive Property.

9 6.3: Understand that the product of the square of a binomial in the form $(a + b)^2$ is $a^2 + 2ab + b^2$.

When a binomial has the pattern $\pm F^a \pm F^b$, then it can be factored as $\pm F^{\min(a,b)}(\pm F^{a-\min(a,b)} \pm F^{b-\min(a,b)})$.

- o MA.912.AR.1.1: Identify and interpret parts of an equation or expression that represent a quantity in terms of a mathematical or real-world context, including viewing one or more of its parts as a single entity.

f Clarification 1: Parts of an expression include factors, terms, constants, coefficients and variables.

	9 6.3: Solve real-world problems involving the square of a binomial. 9 6.4: Divide a polynomial by a monomial. 9 6.4: Find the greatest common factor of a polynomial. 9 6.4: Write polynomials in factored form. 9 6.5: Factor a trinomial in form $ax^2 + bx + c$ by finding two binomial factors whose product is equal to the trinomial. 9 6.5: Identify patterns in the signs of the coefficients of the terms of a trinomial expression and use those patterns to determine the signs of the second terms in the binomial factors. 9 6.6: Identify the common factor of the coefficients in the terms of a trinomial expression when $ax^2 + bx + c$. 9 6.6: Write a quadratic trinomial as a product of two binomial factors. 9 6.7: Identify parts of polynomials to factor them as the difference of two squares or as a perfect square. 9 6.7: Use a polynomial to represent a measurement in a real-world situation and describe how a factored form of the polynomial relates to that situation.	
1.5	Partial success at score 2.0 content, and major errors or omissions regarding score 3.0 content.	
1.0	With help, partial success at score 2.0, content and score 3.0 content.	
0.5	With help, partial success at score 2.0 content but not at score 3.0 content.	
0	Even with help, no success.	

Student Name:	Student Critical Concept	TOPIC 6
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Polynomials and Factoring

Optional Enrichment

	Understand that when a trinomial has the pattern $x^2 + 2x + 1$, then it can be factored as $(x + 1)(x + 1)$ or $(x + 1)^2$. Understand that when a trinomial has the pattern $x^2 - 2x + 1$, then it can be factored as $(x - 1)(x - 1)$ or $(x - 1)^2$. Understand that when a binomial has the pattern $x^2 - 1$, then it can be factored as $(x + 1)(x - 1)$.	
2.5	I have mastered 2.0 content and with help I am successful at 3.0 content.	

I can:

Identify the parts of a polynomial, such as coefficient, variable, and constant.

2.0

- o MA.912. AR.3.7: Given a table, equation or written description of a quadratic function, graph that function, and determine and interpret its key features. c
 - f Clarification 1: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; end behavior; vertex; and symmetry.
 - f Clarification 2: Instruction includes the use of standard form, factored form and vertex form, and
 - f

f Clarification 4: Within the Algebra 1 course, notations for domain and range

- o MA.912.F.1.1: Given an equation or graph that defines a function, classify the function type. Given an input-output table, determine a function type that could represent it.

f Clarification 1: Within the Algebra 1 course, functions represented as tables are limited to linear, quadratic and exponential.

f Clarification 2: Within the Algebra 1 course, functions represented as equations or graphs are limited to vertical or horizontal translations or reflections over the T -axis of the following parent functions: B (T) = T , B (T) =

$$T^6, B(T) = T^{-6}, B(T) = \frac{1}{T}, B(T) = \frac{1}{T^4}, B(T) = \frac{1}{T^2}, B(T) = 1, B(T) = 2^T$$

9 7.3: Graph quadratic functions in standard form and show intercepts, maxima, and minima.

9 7.3: Determine how the values of a, b, and c affect the graph of

$$f(x) = ax^2 + bx + c$$

9 7.3 ph

Student Name:	Student Critical Concept Quadratic Functions	TOPIC 7
		MA.912.AR.3.4, MA.912.AR.3.7, MA.912.F.1.2, MA.912.F.1.3, MA.912.F.2.1, MA.912.AR.3.8, MA.912.AR.1.2, MA.912.AR.1.1, MA.912.F. 1.1, MA.912.F.1.6, MA.912.F.1.8
Optional Enrichment		
enVisionFlorida B.E.S.T.		Algebra 1

Understand that a quadratic function can be used to model area and vertical motion problems.

Understand that these models can be written in the same form as the quadratic function $f(x) = ax^2 + bx + c$ using key features to interpret and understand the situation.

Understand that linear, exponential, and quadratic functions are differentiated by their average rates of change over different intervals among other key features.

f G I

Algebra 1	Teacher Critical Concept Solving Quadratic Equations	Topic 8
	M.C. Formative Assessment Name: DFA Algebra 1 Topic 8 Solving Quadratic Equations	MA.912.AR.3.6, MA.912.AR.3.7, MA.912.AR.3.8, MA.912.AR.1.2, MA.912.AR.3.1, MA.912.AR.3.5, MA.912.AR.1.1

The student will:

4.0

Mary was rollerblading at the local skate park. She went from side of the ramp to the other side of the ramp which can be modeled by the function $3t^2 + 9t - 4 = 0$. How long did it take her to go from one side of the ramp to the other side of the ramp? Interpret the solution(s) in terms of time.

9 8.2: Understand that

Clarification 1: Parts of an expression include factors, terms, constants, coefficients, and variables.

o MA12R6.9.4/52A.

Student Name:

Student Critical Concept
Solving Quadratic Equations

TOPIC 8
SA.t64 AR tucal Q

Optional Enrichment

Algebra 1	Teacher Critical Concept Working with Functions	Topic 9
	M.C. Formative Assessment Name: DFA Algebra	MA.912.F.1.1, MA.912.F.1.2, MA.912.F.1.3, MA.912.AR.3.7, MA.912.AR.4.3, MA.912.AR.5.6, MA.912.F.1.5, MA.912.F.1.6

Topic 9

MA.912.F.1.1, MA.912.F.1.2,
MA.912.F.1.3, MA.912.AR.3.7,
MA.912.AR.4.3, MA.912.AR.5.6,
MA.912.F.1.5, MA.912.F.1.6

Teacher Critical Concept
Working with Functions

M.C. Formative Assessment Name:
DFA Algebra

Algebra 1

- o MA.912.F.1.3: Calculate and interpret the average rate of change of a real -world situation represented graphically, algebraically or in a table over a specified interval.
 - f Clarification 1: Instruction includes making the connection to determining the slope of a particular line segment.

9 9.2 : Understand that the general form of a cubic function is $f(x) = ax^3 + bx^2 + cx + d$.

- f* Clarification 3: Within the Algebra 1 course, notations for domain and range are limited to inequality and set-builder.
- f* Clarification 4: Within the Algebra 1 course, exponential functions are limited to the forms $B(x) = a \cdot b^x$, where b is a whole number greater than 1 or a unit fraction or $B(x) = a(1 \pm N)^x$, where $0 < N < 1$.

o MA.912.F.1.1:

Student Name:	Student Critical Concept	TOPIC 9
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Working with Functions

MA.912.F.1.1, MA.912.F.1.2,
 MA.912.F.1.3, MA.912.AR.F.kra.2 (2.)5o9

Optional Enrichment

	Understand positive and negative intervals of a function. Understand end behavior of a function. Understand that increasing and decreasing intervals, positive and negative intervals, and end behavior are used to identify and compare functions.	
2.5	I have mastered 2.0 content and with help I am successful at 3.0 content.	
2.0	I can: Identify key features of the square root function. Calculate and interpret the average rate of change for a square root function over a specified interval. Identify the positive and negative intervals of cubic and cube root functions. Identify the increasing and decreasing intervals of cubic and cube root functions. Identify the end behavior of cubic and cube root functions. Model real-world situations using the cube root and cubic functions. Use different representations to identify function types. Analyze the key features of a function to identify the type of function it represents.	I will be able to recognize or recall specific vocabulary: Square Root Function Cube Root Function Cubic Function
1.5	I have partial success at 2.0 content.	