



Algebra 1 with Probability

Timeline	Unit/theme	Standard	Student Focused Objective	Resources/ Suggested Activities
28 days	Unit 2 Linear Equations, Inequalities , and Systems	<p>4. Interpret linear, quadratic, and exponential expressions in terms of a context by viewing one or more of their parts as a single entry</p> <p>10. Select an appropriate method to solve a system of two linear equations in two variable</p> <p>11. Create equations and inequalities in one variable and use them to solve problems in context</p> <p>12. Create equations in two or more variables to represent relationships between quantities in context; graph equations on coordinate axes with labels and scales and use them to make predictions.</p> <p>13. Represent constraints by equations and/or inequalities, and solve systems of equations and/or inequalities; interpreting solutions as viable or nonviable options in a modeling context</p> <p>14. Given a relation defined by an equation in two variables, identify the graph of the relation as the set of all its solutions plotted in the coordinate plane.</p> <p>18. Solve systems consisting of linear and or quadratic equations in two variables graphically, using technology where appropriate.</p> <p>20. Graph the solutions to a linear inequality in two variables as a half-plane, and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes, using technology where appropriate</p>	I can learn how to use variables to express equations, inequalities and systems. I can do this by expressing variables in written and graphical form. I can identify the limits of equations and understand what effects they have on them.	Accelerated Learning, MathNation, Desmos. MathNation
15 days	Unit 4, Functions	<p>15. Define a function as a mapping from one set to another set that assigns to each element of the domain and exactly one element of the range.</p> <p>16. Compare and contrast relations and functions represented by equations, graphs, or tables that show related values; determine whether a relation is a function.</p>	I can define and evaluate functions. I can display these functions graphically when I need to.	Accelerated Learning, MathNation, Desmos. MathNation

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		<p>17. Combine different types of standard functions represented by equations, graphs, or tables that show related values; determine whether a relation is a function.</p> <p>19. Explain what 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 $f(x)=g(x)$</p> <p>28. For a function that models 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.</p> <p>29. Calculate and interpret the average rate of change of a function over a specified interval.</p> <p>30. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p>		
19 Days	Unit 5 Introduction to Exponential Functions	<p>4. Interpret linear, quadratic, and exponential expressions in terms of a context by viewing one or more of their parts as a single entry</p> <p>6. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.</p> <p>15. Define a function as a mapping from one set to another set that assigns to each element of the domain and exactly one element of the range.</p> <p>16. Compare and contrast relations and functions represented by equations, graphs, or tables that show related values; determine whether a relation is a function.</p> <p>24. Distinguish between situations that can be modeled with linear functions and those that can be modeled with exponential functions</p> <p>25. Construct linear and exponential functions, including arithmetic and geometric sequences, given graph, a description of a relationship, or two input-output pairs.</p> <p>26. Use graphs and tables to show that a quantity</p>	I can learn how to identify and evaluate exponential functions. I can identify these functions on a graph and also graph them effectively. I can use and identify the appropriate words for these types	Accelerated Learning, MathNation, Desmos. MathNation

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		<p>increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.</p> <p>27. Interpret the parameters of functions in terms of a context.</p> <p>28. For a function that models 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.</p> <p>29. Calculate and interpret the average rate of change of a function over a specified interval.</p> <p>30. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p>		
3 days	Unit 3 Rational Exponents	<p>1. Explain how the meaning of rational exponents follow from extending the properties of integer exponents to those values, allowing for an additional notation for radicals using rational exponents.</p> <p>2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.</p>	I can use rational and irrational numbers to complete the real number system.	Accelerated Learning, MathNation, Desmos, MathNation
10 days	Unit 1 Sequences and Functions	<p>22. Define sequences as functions, including recursive definitions, whose domain is a subset of the integers.</p> <p>25. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs.</p>	I can identify and define functions by using a variety of representations: mapping, diagrams, function notation, recursive definitions, tables and graphs. I can tell that functions that are members of the same family have common attributes.	Accelerated Learning, MathNation, Desmos, MathNation
16 days	Unit 6 Introduction to	<p>4. Interpret linear, quadratic, and exponential expressions in terms of a context by viewing one or more of their parts as a single entry</p> <p>5. Use the structure of an expression to identify ways</p>		Accelerated Learning, MathNation, Desmos.

	<p>Quadratic Functions</p>	<p>to rewrite it. 6. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. 15a. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of context. 16. Compare and contrast relations and functions represented by equations, graphs, or tables that show related values; determine whether a relation is a function. 21. Compare properties of two functions, each represented in a different way (algebraically, graphically, numerically in tables, or by verbal description). 25. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs. 26. Use graphs and tables to show that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically. 28. For a function that models 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. 30. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p>		<p>MathNation</p>