

DISTRICT NAME: Awesome District

SCHOOL NAME: Awesome University

GRADE LEVEL: Grade 12

Student Name:

Student ID:

Teacher Name:

Academic Year:

Grades (A-F): A = Excellent B = Above Average C = Average D = Below Average F = Failing

ENGLISH LANGUAGE ARTS/LITERACY	1	2
Reading: Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts.		
<i>Reading Standards for Literature</i>		
Key Ideas and Details		
Craft and Structure		
Integration of Knowledge and Ideas		
Range of Reading and Level of Text Complexity		
<i>Reading Standards for Informational Text</i>		
Key Ideas and Details		
Craft and Structure		
Integration of Knowledge and Ideas		
Range of Reading and Level of Text Complexity		
<i>Reading Standards for Literacy in History/Social Studies</i>		
Key Ideas and Details		
Craft and Structure		
Integration of Knowledge and Ideas		
Range of Reading and Level of Text Complexity		
<i>Reading Standards for Literacy in Science and Technical Subjects</i>		
Key Ideas and Details		
Craft and Structure		
Integration of Knowledge and Ideas		
Range of Reading and Level of Text Complexity		
Writing: Students can produce effective and well-grounded writing for a range of purposes and audiences.		
<i>Writing Standards</i>		
Text Types and Purposes		
Production and Distribution of Writing		
Research to Build and Present Knowledge		
Range of Writing		
<i>Writing Standards for Literacy in</i>		

ADVANCED

MATH 1 2 1 2
BUNDLES

Concepts & Procedures: Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.

Algebra I

1: Persevere			Use properties of rational and irrational numbers. (N-Q)		
6: Precision			Interpret the structure of expressions. (A-SSE)		
7: Seeing Structure			Write expressions in equivalent forms to solve problems. (A-SSE)		
8: Generalizing			Perform arithmetic operations on polynomials. (A-APR)		
			Solve equations and inequalities in one variable. (A-REI)		
			Understand the concept of a function and use function notation. (F-IF)		

Problem Solving: Students can solve a range of complex well-posed problems

<i>History/Social Studies, Science, and Technical Subjects</i>		
Text Types and Purposes		
Production and Distribution of Writing		
Research to Build and Present Knowledge		
Range of Writing		
Speaking and Listening: Students can employ effective speaking and listening skills for a range of purposes and audiences		
<i>Speaking and Listening Standards</i>		
Comprehension and Collaboration		
Presentation of Knowledge and Ideas		
<i>Language Standards</i>		
Convention of Standard English		
Knowledge of Language		
Vocabulary Acquisition and Use		
Research/Inquiry: Students can engage in research and inquiry to investigate topics, and to analyze, integrate, and present information.		
<i>Writing Standards</i>		
Text Types and Purposes		
Production and Distribution of Writing		
Research to Build and Present Knowledge		
Range of Writing		
<i>Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects</i>		
Text Types and Purposes		
Production and Distribution of Writing		
Research to Build and Present Knowledge		
Range of Writing		
<i>Speaking and Listening Standards</i>		
Comprehension and Collaboration		
Presentation of Knowledge and Ideas		
<i>Language Standards</i>		
Convention of Standard English		
Knowledge of Language		
Vocabulary Acquisition and Use		

Science	1	2

Social Studies	1	2

Work Habits	1	2

in pure and applied mathematics, making productive use of knowledge and problem solving strategies.

Algebra I

1: Persevere			Reason quantitatively and use units to solve problems. (N-Q)		
2: Reasoning			Create equations that describe numbers or relationships. (A-CDE)		
4: Modeling			Solve systems of equations. (A-REI)		
5: Using Tools			Interpret functions that arise in applications in terms of the context. (F-IF)		
6: Precision			Analyze functions using different representations. (F-IF)		
			Construct and compare linear, quadratic, and exponential models and solve problems. (F-LE)		

Communicating Reasoning: Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.

Algebra I

1: Persevere			Extend the properties of exponents to rational exponents. (N-RN)		
2: Reasoning			Understand solving equations as a process of reasoning and explain the reasoning. (A-REI)		
3: Explaining			Represent and solve equations and inequalities graphically. (A-REI)		
6: Precision					

Modeling and Data Analysis: Students can analyze complex, real-world

Attendance/Tardies	1	2
Attendance		
Tardies		

scenarios and can construct and use mathematical models to interpret and solve problems.

Algebra I

1: Persevere			Build a function that models a relationship between two quantities. (F-BF)		
4: Modeling			Build new functions from existing functions. (F-BF)		
5: Using Tools			Interpret expressions for functions in terms of the situation they model. (F-LE)		
6: Precision			Summarize, represent, and interpret data on a single count or measurement variable. (S-ID)		
7: Seeing Structure			Interpret linear models. (S-ID)		
8: Generalizing			Summarize, represent, and interpret data on two categorical and quantitative variables. (S-ID)		

ADVANCED MATHEMATICS	1	2
<i>Number and Quantity</i>		
The Real Number System		
Extend the properties of exponents to rational exponents.		
Use properties of rational and irrational numbers.		
Quantities		
Reason quantitatively and use units to solve problems.		
The Complex Number System		
Perform arithmetic operations with complex numbers.		
Use complex numbers in polynomial identities and equations.		
Quantities		

Reason quantitatively and use units to solve problems.		
The Real Number System		
Extend the properties of exponents to rational exponents.		
Use properties of rational and irrational numbers.		
The Complex Number Systems		
Perform arithmetic operations with complex numbers.		
Use complex numbers in polynomial identities and equations.		
The Complex Number System		
Use complex numbers in polynomial identities and equations.		
<i>Algebra</i>		
Seeing Structure in Expressions		
Interpret the structure of expressions.		
Write expressions in equivalent forms to solve problems.		
Arithmetic with Polynomials and Rational Expressions		
Perform arithmetic operations on polynomials.		
Creating Equations		
Create equations that describe numbers or relationships.		
Reasoning with Equations and Inequalities		
Understand solving equations as a process of reasoning and explain the reasoning.		
Solve equations and inequalities in one variable.		
Solve systems of equations.		
Represent and solve equations and inequalities graphically.		
Seeing Structure in Expressions		
Interpret the structure of expressions.		
Write expressions in equivalent forms to solve problems.		
Arithmetic with Polynomials and Rational Expressions		
Perform arithmetic operations on polynomials.		
Understand the relationship between zeros and factors of polynomials.		
Use polynomial identities to solve problems.		
Rewrite rational expressions.		
Creating Equations		
Create equations that describe numbers or relationships.		
Reasoning with Equations and Inequalities		
Understand solving equations as a process of reasoning and explain the reasoning.		

Solve equations and inequalities in one variable.		
Represent and solve equations and inequalities graphically.		
Seeing Structure in Expressions		
Interpret the structure of expressions.		
Creating Equations		
Create equations that describe numbers or relationships.		
Reasoning with Equations and Inequalities		
Understand solving equations as a process of reasoning and explain the reasoning.		
Solve equations and inequalities in one variable.		
Solve systems of equations.		
Represent and solve equations and inequalities graphically.		
Seeing Structure in Expressions		
Interpret the structure of expressions.		
Write expressions in equivalent forms to solve problems.		
Arithmetic with Polynomials and Rational Expressions		
Perform arithmetic operations on polynomials.		
Creating Equations		
Create equations that describe numbers or relationships.		
Reasoning with Equations and Inequalities		
Solve equations and inequalities in one variable.		
Solve systems of equations.		
Seeing Structure in Expressions		
Interpret the structure of expressions.		
Write expressions in equivalent forms to solve problems.		
Arithmetic with Polynomials and Rational Expressions		
Perform arithmetic operations on polynomials.		
Understand the relationship between zeros and factors of polynomials.		
Use polynomial identities to solve problems.		
Rewrite rational expressions.		
Creating Equations		
Create equations that describe numbers or relationships.		
Reasoning with Equations and Inequalities		
Understand solving equations as a process of reasoning and explain the reasoning.		
Represent and solve equations and inequalities graphically.		
Functions		

Interpreting Functions		
Understand the concept of a function and use function notation.		
Interpret functions that arise in applications in terms of the context.		
Analyze functions using different representations.		
Building Functions		
Build a function that models a relationship between two quantities.		
Build new functions from existing functions.		
Interpreting Functions		
Interpret functions that arise in applications in terms of the context.		
Analyze functions using different representations.		
Building Functions		
Build a function that models a relationship between two quantities.		
Build new functions from existing functions.		
Linear, Quadratic, and Exponential Models		
Construct and compare linear, quadratic, and exponential models and solve problems.		
Trigonometric Functions		
Extend the domain of trigonometric functions using the unit circle.		
Model periodic phenomena with trigonometric functions.		
Prove and apply trigonometric identities.		
Interpreting Functions		
Understand the concept of a function and use function notation.		
Interpret functions that arise in applications in terms of the context.		
Analyze functions using different representations.		
Building Functions		
Build a function that models a relationship between two quantities.		
Build new functions from existing functions.		
Linear, Quadratic, and Exponential Models		
Construct and compare linear, quadratic, and exponential models and solve problems.		
Interpret expressions for functions in terms of the situation they model.		
Interpreting Functions		
Interpret functions that arise in applications in terms of the context.		
Analyze functions using different representations.		
Building Functions		
Build a function that models a relationship between two quantities.		
Build new functions from existing functions.		
Linear, Quadratic, and		

Exponential Models		
Construct and compare linear, quadratic, and exponential models and solve problems.		
Interpret expressions for functions in terms of the situation they model.		
Trigonometric Functions		
Prove and apply trigonometric identities.		
Interpreting Functions		
Interpret functions that arise in applications in terms of the context.		
Analyze functions using different representations.		
Building Functions		
Build a function that models a relationship between two quantities.		
Build new functions from existing functions.		
Linear, Quadratic, and Exponential Models		
Construct and compare linear, quadratic, and exponential models and solve problems.		
Trigonometric Functions		
Extend the domain of trigonometric functions using the unit circle.		
Model periodic phenomena with trigonometric functions.		
<i>Geometry</i>		
Congruence		
Experiment with transformations in the plane.		
Understand congruence in terms of rigid motions.		
Prove geometric theorems.		
Make geometric constructions.		
Similarity, Right Triangles, and Trigonometry		
Understand similarity in terms of similarity transformations.		
Prove theorems involving similarity.		
Define trigonometric ratios and solve problems involving right triangles.		
Apply trigonometry to general triangles.		
Circles		
Understand and apply theorems about circles.		
Find arc lengths and area of sectors of circles.		
Expressing Geometric Properties with Equations		
Translate between the geometric description and the equation for a conic section.		
Use coordinates to prove simple geometric theorems algebraically.		
Geometric Measurement and Dimension		
Explain volume formulas and use them to solve problems.		
Visualize relationships between two-dimensional and three-dimensional objects.		
Modeling with Geometry		

Apply geometric concepts in modeling situations.		
Expressing Geometric Properties with Equations		
Translate between the geometric description and the equation for a conic section.		
Congruence		
Experiment with transformations in the plane.		
Understand congruence in terms of rigid motions.		
Make geometric constructions.		
Expressing Geometric Properties with Equations		
Use coordinates to prove simple geometric theorems algebraically.		
Congruence		
Prove geometric theorems.		
Similarity, Right Triangles, and Trigonometry		
Understand similarity in terms of similarity transformations.		
Prove theorems involving similarity.		
Define trigonometric ratios and solve problems involving right triangles.		
Circles		
Understand and apply theorems about circles.		
Find arc lengths and areas of sectors of circles.		
Expressing Geometric Properties with Equations		
Translate between the geometric description and the equation for a conic section.		
Use coordinates to prove simple geometric theorems algebraically.		
Geometric Measurement and Dimension		
Explain volume formulas and use them to solve problems.		
Similarity, Right Triangles, and Trigonometry		
Apply trigonometry to general triangles.		
Expressing Geometric Properties with Equations		
Translate between the geometric description and the equation for a conic section.		
Geometric Measurement and Dimension		
Visualize relationships between two-dimensional and three-dimensional objects.		
Modeling with Geometry		
Apply geometric concepts in modeling situations.		
<i>Statistics and Probability</i>		
Conditional Probability and the Rules of Probability		
Understand independence and conditional		

probability and use them to interpret data.		
Use the rules of probability to compute probabilities of compound events in a uniform probability model.		
Using Probability to Make Decisions		
Use probability to evaluate outcomes of decisions.		
Interpreting Categorical and Quantitative Data		
Summarize, represent, and interpret data on a single count or measurement variable.		
Making Inferences and Justifying Conclusions		
Understand and evaluate random processes underlying statistical experiments.		
Make inferences and justify conclusions from sample surveys, experiments, and observational studies.		
Using Probability to Make Decisions		
Use probability to evaluate outcomes of decisions.		
Interpreting Categorical and Quantitative Data		
Summarize, represent, and interpret data on a single count or measurement variable.		
Summarize, represent, and interpret data on two categorical and quantitative variables.		
Interpret linear models.		
Conditional Probability and the Rules of Probability		
Understand independence and conditional probability and use them to interpret data.		
Use the rules of probability to compute probabilities of compound events in a uniform probability model.		
Using Probability to Make Decisions		
Use probability to evaluate outcomes of decisions.		
Interpreting Categorical and Quantitative Data		
Summarize, represent, and interpret data on a single count or measurement variable.		
Making Inferences and Justifying Conclusions		
Understand and evaluate random processes underlying statistical experiments.		
Make inferences and justify conclusions from sample surveys, experiments, and observational studies.		
Using Probability to Make Decisions		
Using Probability to Make Decisions		
1.0 Students solve probability problems with finite sample spaces by using the rules for addition,		

multiplication, and complementation for probability distributions and understand the simplifications that arise with independent events.		
2.0 Students know the definition of conditional probability and use it to solve for probabilities in finite sample spaces.		
3.0 Students demonstrate an understanding of the notion of discrete random variables by using this concept to solve for the probabilities of outcomes, such as the probability of the occurrence of five or fewer heads in 14 coin tosses.		
4.0 Students understand the notion of a continuous random variable and can interpret the probability of an outcome as the area of a region under the graph of the probability density function associated with the random variable.		
5.0 Students know the definition of the mean of a discrete random variable and can determine the mean for a particular discrete random variable.		
6.0 Students know the definition of the variance of a discrete random variable and can determine the variance for a particular discrete random variable.		
7.0 Students demonstrate an understanding of the standard distributions (normal, binomial, and exponential) and can use the distributions to solve for events in problems in which the distribution belongs to those families.		
8.0 Students determine the mean and the standard deviation of a normally		

distributed random variable.		
9.0 Students know the central limit theorem and can use it to obtain approximations for probabilities in problems of finite sample spaces in which the probabilities are distributed binomially.		
10.0 Students know the definitions of the mean, median, and mode of distribution of data and can compute each of them in particular situations.		
11.0 Students compute the variance and the standard deviation of a distribution of data.		
12.0 Students find the line of best fit to a given distribution of data by using least squares regression.		
13.0 Students know what the correlation coefficient of two variables means and are familiar with the coefficient's properties.		
14.0 Students organize and describe distributions of data by using a number of different methods, including frequency tables, histograms, standard line graphs and bar graphs, stem-and-leaf displays, scatterplots, and box-and-whisker plots.		
15.0 Students are familiar with the notions of a statistic of a distribution of values, of the sampling distribution of a statistic, and of the variability of a statistic.		
16.0 Students know basic facts concerning the relation between the mean and the standard deviation of a sampling distribution and the mean and the standard deviation of the population		

distribution.		
17.0 Students determine confidence intervals for a simple random sample from a normal distribution of data and determine the sample size required for a desired margin of error.		
18.0 Students determine the P-value for a statistic for a simple random sample from a normal distribution.		
19.0 Students are familiar with the chi-square distribution and chi-square test and understand their uses.		
1.0 Students demonstrate knowledge of both the formal definition and the graphical interpretation of limit of values of functions. This knowledge includes one-sided limits, infinite limits, and limits at infinity. Students know the definition of convergence and divergence of a function as the domain variable approaches either a number or infinity.		
1.1 Students prove and use theorems evaluating the limits of sums, products, quotients, and composition of functions.		
1.2 Students use graphical calculators to verify and estimate limits.		
1.3 Students prove and use special limits, such as the limits of $(\sin(x))/x$ and $(1-\cos(x))/x$ as x tends to 0.		
2.0 Students demonstrate knowledge of both the formal definition and the graphical interpretation of continuity of a function.		
3.0 Students demonstrate an understanding and the application of the intermediate value theorem and the extreme value theorem.		
4.0 Students demonstrate an understanding of the formal definition of the derivative of a function at a point and the notion of		

differentiability.		
4.1 Students demonstrate an understanding of the derivative of a function as the slope of the tangent line to the graph of the function.		
4.2 Students demonstrate an understanding of the interpretation of the derivative as an instantaneous rate of change. Students can use derivatives to solve a variety of problems from physics, chemistry, economics, and so forth that involve the rate of change of a function.		
4.3 Students understand the relation between differentiability and continuity.		
4.4 Students derive derivative formulas and use them to find the derivatives of algebraic, trigonometric, inverse trigonometric, exponential, and logarithmic functions.		
5.0 Students know the chain rule and its proof and applications to the calculation of the derivative of a variety of composite functions.		
6.0 Students find the derivatives of parametrically defined functions and use implicit differentiation in a wide variety of problems in physics, chemistry, economics, and so forth.		
7.0 Students compute derivatives of higher orders.		
8.0 Students know and can apply Rolle's Theorem, the mean value theorem, and L'Hôpital's rule.		
9.0 Students use differentiation to sketch, by hand, graphs of functions. They can identify maxima, minima, inflection points, and intervals in which the function is increasing and decreasing.		
10.0 Students know Newton's method for approximating the zeros of a function.		
11.0 Students use differentiation to solve optimization (maximum-minimum problems) in a variety of pure and applied contexts.		

12.0 Students use differentiation to solve related rate problems in a variety of pure and applied contexts.		
13.0 Students know the definition of the definite integral by using Riemann sums. They use this definition to approximate integrals.		
14.0 Students apply the definition of the integral to model problems in physics, economics, and so forth, obtaining results in terms of integrals.		
15.0 Students demonstrate knowledge and proof of the fundamental theorem of calculus and use it to interpret integrals as antiderivatives.		
16.0 Students use definite integrals in problems involving area, velocity, acceleration, volume of a solid, area of a surface of revolution, length of a curve, and work.		
17.0 Students compute, by hand, the integrals of a wide variety of functions by using techniques of integration, such as substitution, integration by parts, and trigonometric substitution. They can also combine these techniques when appropriate.		
18.0 Students know the definitions and properties of inverse trigonometric functions and the expression of these functions as indefinite integrals.		
19.0 Students compute, by hand, the integrals of rational functions by combining the techniques in standard 17.0 with the algebraic techniques of partial fractions and		

completing the square.		
20.0 Students compute the integrals of trigonometric functions by using the techniques noted above.		
21.0 Students understand the algorithms involved in Simpson's rule and Newton's method. They use calculators or computers or both to approximate integrals numerically.		
22.0 Students understand improper integrals as limits of definite integrals.		
23.0 Students demonstrate an understanding of the definitions of convergence and divergence of sequences and series of real numbers. By using such tests as the comparison test, ratio test, and alternate series test, they can determine whether a series converges.		
24.0 Students understand and can compute the radius (interval) of the convergence of power series.		
25.0 Students differentiate and integrate the terms of a power series in order to form new series from known ones.		
26.0 Students calculate Taylor polynomials and Taylor series of basic functions, including the remainder term.		
27.0 Students know the techniques of solution of selected elementary differential equations and their applications to a wide variety of situations, including growth-and-decay problems.		

Practices	1	2
Persevere		
Reasoning		

Explaining		
Modeling		
Using Tools		
Precision		
Seeing Structure		
Generalizing		

Physical Education	1	2

Visual and Performance Arts	1	2

Assessment Results	1	2