Swansea High Freshman Academy

Ensuring Student Performance at the Highest Level

Algebra 1 2017 - 2018

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This is the Course Syllabus for Algebra 1. Keep this for your records.

What do I need for class every day?

I expect each of you to come to class everyday prepared and with the appropriate materials. You MUST bring the following to class everyday:

- Pencil or Pen
- Loose-leaf paper (College-ruled)

How will I be evaluated?

Your final average will be calculated using the following percentages:

1. *Unit/Chapter Tests & Projects – 80%*
2. *Formative Assessments - 20%*

Academic Dishonesty: **When cheating, dishonesty, or plagiarizing occurs or is suspected, all students involved will be referred to administration, have their parents/guardians contacted, and receive a 50 for the assignment.**

Unit/Chapter Tests: Test are given at the end of each unit. Students will know well in advance of an upcoming unit exam. In addition, a cumulative exam will be given at the end of the year. Students are allowed to retake tests, if they have a three or four on learn checks for what they missed.

Learn Checks: In order to access and ensure student mastery of daily objectives, learn checks will be used periodically to monitor student growth and development. Credit will be awarded based on your demonstrated mastery of the learning objective. Students may retake learning checks, and must have a three or four on a learning check before they are allowed to retake a test.

Homework: Students should expect to have homework most evenings. Math requires a set of skills that must be practiced regularly. Homework is a great way to get that practice. Homework may be graded for completion and/or correctness.

What happens if I miss class?
Simply put, come to class. Regular attendance is essential to success in this class and on all given exams. If you are absent, notes and assignments can be found on the class website, in the daily folders, or from a classmate.

What can I do if I have done poorly on an assignment or an exam?
The best thing to do in this particular situation is to come and talk to me individually before or after school. Do not count on extra credit to improve your grade. If you have an excused absence on the day of a test, that test must be made up before or after school. If the absence is unexcused, you will receive a zero for that test.

What are the rules, procedures, and such?
In addition to the rules in the student handbook, I proudly offer a classroom free of excuses, lying, cheating, stealing, profanity, belittling, cell phones, electronic devices of any kind, drinks without lids, and work from other classes! My rules and expectations are not extensive and are in place for a reason. If you are in violation of them, you are disrupting the learning environment that I have established. While you can make such a choice, I refuse to work in such an environment. With every choice a positive or negative consequence can be expected.

Tardiness: If you are not in the classroom and prepared when the bell rings, you are considered tardy. Your first tardy will be a warning, however subsequent tardies will have consequences as outlined in the student handbook.

Hall Passes: You are allowed five hall passes per semester, not including medical emergencies. If you have extenuating circumstances where you will need to leave class more than five times, speak to me before or after school.

Entering Class:
1. Enter the classroom quietly, check your folder, then grab your calculator and sit down.
2. Put all other belongings away except for those needed for this class.
3. Everyday there will be a bell-ringer question(s) on the board for you to complete. These will be collected and graded periodically so it is important to keep up with them.

Leaving Class:
1. Turn in your exit ticket and any other assignments that are due in class.
2. Put all objects back in their original position, including desks, calculators, and clickers.
3. Pick up trash around your area.
4. Sit and wait patiently. Remember, the bell does not dismiss you, I do.

Algebra 1 EOCEP Blueprint 2017-2018

Algebra	A1.AAPR.1*	Add, subtract, and multiply polynomials and understand that polynomials are closed under these operations. (Limit to linear; quadratic.)	21-25
	A1.ACE.1*	Create and solve equations and inequalities in one variable that model real-world problems involving linear, quadratic, simple rational, and exponential relationships. Interpret the solutions and determine whether they are reasonable. (Limit to linear; quadratic; exponential with integer exponents.)	
	A1.ACE.2*	Create equations in two or more variables to represent relationships between quantities. Graph the equations on coordinate axes using appropriate labels, units, and scales. (Limit to linear; quadratic; exponential with integer exponents; direct and indirect variation.)	
	A1.ACE.4*	Solve literal equations and formulas for a specified variable including equations and formulas that arise in a variety of disciplines.	
	A1.AREI.1*	Understand and justify that the steps taken when solving simple equations in one variable create new equations that have the same solution as the original.	
	A1.AREI.3*	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	
	A1.AREI.4*	Solve mathematical and real-world problems involving quadratic equations in one variable. *(Note: A1.AREI.4a and 4b are not Graduation Standards.)*	
		a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x-h)^2 = k$ that has the same solutions. Derive the quadratic formula from this form.	
		b. Solve quadratic equations by inspection, 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 $a+bi$ for real numbers a and b.	
	A1.AREI.5	Justify that the solution to a system of linear equations is not changed when one of the equations is replaced by a linear combination of the other equation.	
	A1.AREI.6*	Solve systems of linear equations algebraically and graphically focusing on pairs of linear equations in two variables. *(Note: A1.AREI.6a and 6b are not Graduation Standards.)*	
		a. Solve systems of linear equations using the substitution method.	
		b. Solve systems of linear equations using linear combination.	
	A1.AREI.10*	Explain that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane.	
	A1.AREI.11*	Solve an equation of the form $f(x) = g(x)$ graphically by identifying the x-coordinate(s) of the point(s) of intersection of the graphs of $y = f(x)$ and $y = g(x)$. (Limit to linear; quadratic; exponential.)	
	A1.AREI.12*	Graph the solutions to a linear inequality in two variables.	
	A1.ASE.1*	Interpret the meanings of coefficients, factors, terms, and expressions based on their real-world contexts. Interpret complicated expressions as being composed of simpler expressions. (Limit to linear; quadratic; exponential.)	
	A1.ASE.2*	Analyze the structure of binomials, trinomials, and other polynomials in order to rewrite equivalent expressions.	
	A1.ASE.3*	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	
		a. Find the zeros of a quadratic function by rewriting it in equivalent factored form and explain the connection between the zeros of the function, its linear factors, the x-intercepts of its graph, and the solutions to the corresponding quadratic equation.	

Functions	A1.FBF.3*	Describe the effect of the transformations $k\,f(x)$, $f(x)+k$, $f(x+k)$, and combinations of such transformations on the graph of $y = f(x)$, for any real number k. Find the value of k, given the graphs and write the equation of a transformed parent function given its graph. (Limit to linear; quadratic; exponential with integer exponents; vertical shift and vertical stretch.)	**18-22**
	A1.FIF.1*	Extend previous knowledge of a function to apply to general behavior and features of a function.	
		a. 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.	
		b. Represent a function using function notation and explain that $f(x)$ denotes the output of function f that corresponds to the input x.	
		c. Understand that the graph of a function labeled as f is the set of all ordered pairs (x, y) that satisfy the equation $y = f(x)$.	
	A1.FIF.2*	Evaluate functions and interpret the meaning of expressions involving function notation from a mathematical perspective and in terms of the context when the function describes a real-world situation.	
	A1.FIF.4*	Interpret key features of a function that models the relationship between two quantities when given in graphical or tabular form. Sketch the graph of a function from a verbal description showing key features. Key features include intercepts; intervals where the function is increasing, decreasing, constant, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. (Limit to linear; quadratic; exponential.)	
	A1.FIF.5*	Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes. (Limit to linear; quadratic; exponential.)	
	A1.FIF.6*	Given a function in graphical, symbolic, or tabular form, determine the average rate of change of the function over a specified interval. Interpret the meaning of the average rate of change in a given context. (Limit to linear; quadratic; exponential.)	
	A1.FIF.7*	Graph functions from their symbolic representations. Indicate key features including intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior and periodicity. Graph simple cases by hand and use technology for complicated cases. (Limit to linear; quadratic; exponential only in the form $y = a^x + k$.)	
	A1.FIF.8*	Translate between different but equivalent forms of a function equation to reveal and explain different properties of the function. (Limit to linear; quadratic; exponential.) *(Note: A1.FIF.8a is not a Graduation Standard.)*	
		a. 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.FIF.9*	Compare properties of two functions given in different representations such as algebraic, graphical, tabular, or verbal. (Limit to linear; quadratic; exponential.)	
	A1.FLQE.1*	Distinguish between situations that can be modeled with linear functions or exponential functions by recognizing situations in which one quantity changes at a constant rate per unit interval as opposed to those in which a quantity changes by a constant percent rate per unit interval. *(Note: A1.FLQE.1a is not a Graduation Standard.)*	
		a. Prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.	
	A1.FLQE.2*	Create symbolic representations of linear and exponential functions, including arithmetic and geometric sequences, given graphs, verbal descriptions, and tables. (Limit to linear; exponential.)	

	A1.FLQE.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.FLQE.5*	Interpret the parameters in a linear or exponential function in terms of the context. (Limit to linear.)	
Number and Quantity; Interpreting Data	A1.NQ.1*	Use units of measurement to guide the solution of multi-step tasks. Choose and interpret appropriate labels, units, and scales when constructing graphs and other data displays.	**5-9**
	A1.NQ.2*	Label and define appropriate quantities in descriptive modeling contexts.	
	A1.NQ.3*	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities in context.	
	A1.NRNS.1*	Rewrite expressions involving simple radicals and rational exponents in different forms.	
	A1.NRNS.2*	Use the definition of the meaning of rational exponents to translate between rational exponent and radical forms.	
	A1.NRNS.3	Explain why the sum or product of 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.SPID.6*	Using technology, create scatterplots and analyze those plots to compare the fit of linear, quadratic, or exponential models to a given data set. Select the appropriate model, fit a function to the data set, and use the function to solve problems in the context of the data.	
	A1.SPID.7*	Create a linear function to graphically model data from a real-world problem and interpret the meaning of the slope and intercept(s) in the context of the given problem.	
	A1.SPID.8*	Using technology, compute and interpret the correlation coefficient of a linear fit.	

Syllabus Acknowledgement and Information Sheet

I have read the above syllabus and agree to adhere to all policies and procedures contained within. As a student of Swansea High School, I also agree to follow all school rules and do my best every day.

Student Name (Print):_____Period:_____

Student Signature:_____Date:_____

"I have read thoroughly the contents of this syllabus and discussed with my child the expectations of him/her in this course."

Parent/Guardian Name (Print):_____

Parent/Guardian Signature:_____Date:_____

Please provide any additional information that you believe pertinent to your child's success in class:

_____

_____

_____

_____

Classroom Expectations:
The 5 P's of Success

Prompt
Arrive on-time.

Prepared
Bring all required materials daily.

Positive
Welcome opportunities and challenges with an open mind.

Polite
Respect the learning process, the teacher, your peers, and property at all times.

Participate
Engage in learning activities from bell to bell.