Algebra 1B Syllabus

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Class purpose: The purpose of this class is for you to develop the skills necessary in order to pass Algebra IB. The proficiencies that students need to accomplish come from the new Common Core Standards that have been designed by the State of Oregon

Daily Work: Daily work is designed to help you practice the required skills. We will always have cool math to do and will be working in a relaxed and mellow athmosphere. All work will lead up to the weekly test (usually done on Thursday) with a chance to make up the test or Conference with the teacher on Friday about the test.

Grading Policy: It is my job to teach you the skills you need to pass Algebra. It is not my job to give anyone a failing mark. This being said, your grade will be determined using a proficiency based grading system, which means, you must demonstrate that you know *all* of the required skills to earn credit for the class. We are very invested in your success, so we'll give you lots of ways to show you know math such as check outs, projects, quizzes, speeches, art, etc. The level of proficiency you demonstrate on the different required skills will determine your grade. Mostly mastery=A, mostly advanced proficiency =B, mostly proficiency =C. We're always happy to review your progress with you, but you can also track your progress through STUDENT or PARENT VU in Synergy. Please check with the counseling office for more information about accessing Synergy. Note: If the program posts a grade, it may not be accurate as we are working with technology to perfect the program. Please check with me in person, by phone or by e-mail if you wish to know what your grade is. Failure is not an option here. You will work on earning credit for this class until you earn the credit even if it means working after school or at home.

Your grade is indirectly affected by all of the following

<u>Be Present:</u> The number one barrier to success if attendance. If you are here, I know I can teach you the skills necessary to pass Algebra. If not, you are responsible for getting any make up assignments from your classmates or me. We will love having you here. Please be present.

<u>Be Present:</u> We have a job to do; you need to be here, but you also need to be present in your mind. This means that you need to focus and be engaged in the task at hand. Cell phones, headphones, tech decks, you tube, etc. can be great fun but you shouldn't be using them during instruction time. Music does provide students with the ability to block out noise in the classroom and consequently, can make it easier to focus. During tests and during individual work time, you are welcome to listen to music. However, if you are constantly checking your phone or changing the music you are playing, it becomes very difficult to be successful in class. If you are spending your classtime, sneaking onto youtube, you are probably not engaged in the lesson and consequently, not learning. You need a fully functioning brain to truly learn! Get your sleep, refrain from doing anything that deadens your braincells and eat healthy meals.

<u>Give me a Present:</u> Make sure that you turn in all the work that you do. Even if you are not sure that the answers are correct, we can work together to make your work better and better. If I don't see the work you do, I cannot help you learn what you need to learn to make it through Algebra 1.

The Three Respect Rules:

Respect the Space: The calculators, pencils, pens, rulers and other trinkets in the plastic bags are for you to use. The paper on the table is for you to doodle on or use as scrap paper. Please feel free to use these times. However, please remember that the classroom is a shared space. People do not want to see gross images on the scrap paper. People do not want to clean up your mess. The teacher does not want to have to run to the store and replace calculators or pens or pencils that you decide are yours. Please feel free to use the supplies but put them back when you are done using them.

Respect your neighbor: Your neighbor has a right to learn even on those days when you are feeling blue or agitated. Please respect your classmates right to learn the lesson. It is OK to talk and OK to enjoy the company of your neighbors but remember that the main reason we are in this room is to learn Math. You do have a right to address all grievances (in fact, we'd be upset if you didn't) as long as you do so constructively and respectfully. Most importantly, respect the teacher's right to teach the lesson -- this even goes for days when you have a substitute.

Respect yourself: In many ways, this is the most important of the three respects. Respect your own right to learn math and respect the fact that you can learn the subject. Math takes patience and practice and can often be frustrating but you can do it because I know you can do it. Respect your own abilities and comport yourself in a way that makes others want to respect you. Finally, respect yourself by doing your best. Math is a wonderful world but cannot be learned if you don't give it a chance.

Some other details you should know:

You may leave the class with the hall pass when you need to. Please let us know when you leave. Please don't leave without the pass. Please do your business and come back to class. We have secrets of the universe to discover! Please know we have the right to revoke pass privileges and that we don't ever want to do that. As long as you are working hard, it is allowed to work, from time to time, in the Auditorium (assuming it is not being used for anything else) or in the hall outside of my room. This privilege comes with the assumption that you are looking for a solitary space to get work done and not that you simply want to avoid the classroom. If you do leave the room to get work done, it is expected that you check in during direct instruction time. When treats are provided, you are welcome to help yourself to treats quietly during classtime. Please only take what you need and please do not be greedy. The treats are to help ensure a calm learning environment.

Daily Procedure:

BEGINNING OF CLASS: As the bell is ringing, get to your seat and wait for instructions. Somedays, we will start with a brief conversation, other days with direct instruction, other days still with an activity.

Thursdays are usually test days (this week, we have a long pre-test that we are going to start on Wednesday and continue on Thursday) and this is the place where you are going to get most of your proficiencies completed. Fridays will always be for tying up loose ends and test make ups. If you are up to date on proficiencies, you will be asked to practice story problems, work on Khan Academy or work on other computer generated Math exercises.

Algebra 1 proficiencies 2016-17

Trimester 2

Graphing: I can...
1 Work through the rule of 4 (situation, equation, table and graph)
      1a Identify intercepts and calculate slope from graphs, equations and points.
      1b Verify that a point on a graph is a solution to equation.
2 Graph a linear equation in two variables.
3 Graph a linear inequality in two variables.
4 Solving Equations: I can...
      4a. Solve a linear equation in one variable.
      4b. Solve equations/inequalities using distribution, and combining like terms.
      4c. Solve proportions.
      4d. Rewrite formulas or equations for a given variable.
      4e. Solve and graph a linear inequality in one variable.
5 Solving Systems: I can...
      5a Solve a linear system in two variables graphically.
      5b Solve a linear system in two variables algebraically.
      5c Use a graphing calculator to estimate solutions of linear systems.
      5d Write and solve system of equations or inequalities in context.
      5e Determine if a linear system has no solutions, one or many solutions.
6 Solve a linear system of inequalities graphically.
7 Functions: I can...
      7a Identify dependent and independent, domain, and range in context.
      7bDescribe properties of functions using graphs, maps and ordered pairs.
      7c Evaluate functions using function notation and from a graph.
      7d Determine the inverse of a linear fnct, describe effect on dom/range.
8 Rules of Exponents: I can...
      8a Apply the product, quotient and power rules to simplify expressions.
      8b Describe how the quotient rule relates to negative exponents.
      8c Rewrite expressions using only positive rational exponents.
      8d Simplify numerical expressions using rational exponents.
9. Exponential Functions: I can...
      9a. Construct an exponential function using rule of 4.
      9b. Graph exponential functions with a table.
10 Identify and manipulate components of an exponential function
      10a Identify exponential growth and decay, percent increase/decrease.
      10b Distinguish between situations modeling linear and exponential functions

Polonomials and Quadratics:

1. I understand the difference between Monomial, Binomial and Polynomial.
2. I can add and subtract polynomials.
3. I can multiply and factor polynomials
4. I understand what square root is and solve quadratic equations using square roots
5. I can solve quadratics using factoring
6. I can solve quadratics by completing the square
7. I can solve quadratics by using the quadratic formula

Graphing Quadratics:

1. I can graph a quadratic function using a table
2. I can determine VERTEX, AXIS OF SYMMETRY AND INTERCEPTS
3. I can sketch a graph given key featuers
4. I can use a formula to find the vertex
5. I can shift both vertically and horizontally quadratic functions
6. I can construct a quadratic function
7. I can determine the inverse of a simple quadratic function
8. I can distinguish between linear, quadratic and exponential models

Representing and Interpreting Data:

1. I can display and interpret data using histograms
2. I can determine mean, median and mode, range
3. I can identify and interpret effects of outliers on mean and median
4. I can calcuate and compare interquartile range and standard deviation

Ongoing Class Project. Students in Algebra 1B will also be developing a plan for their future using statistical models, linear and exponential formulae, graphs and charts to determine the economic feasibility of attaining their dreams. This project will be done as a collaboration between the English class and the Math class -- the underlying goal being to explore the practical applications of Mathematics in the real world.