

La Cañada High School
LC Math I - Course Syllabus 2016-2017
Ms. DiFiore - Room 213

Course Description: This is the first course in the La Cañada college preparatory math sequence. The main purpose of La Canada Math 1 is to develop students' fluency with linear, quadratic and exponential functions, equations and expressions. Students will begin with a study of univariate and bivariate data analysis. Students will expand on their knowledge of linear functions by applying linear models to data that exhibit a linear trend, solving systems of equations and inequalities, creating and analyzing piecewise functions, and contrasting linear models with exponential models. Students will work with exponents and develop an understanding of exponential functions. Finally, students will analyze quadratic functions and solve quadratic equations. Some of the overarching ideas in this course include: the notion of function, solving equations and inequalities, rates of change and growth patterns, working with sequences, understanding absolute value relationships, graphs as representations of functions, and modeling.

Materials: Bring to class *every day*

- 1) Three-ring binder with notes, worksheets, assignments, and graph paper.
- 2) Pencil/pen and whiteboard marker

Assignments: Assignments are a way for students to practice what they know and have learned in class. They are also an opportunity for students to self-assess, and identify their "stuck points", which will help them create new understanding. They will be given daily and are due the next class meeting.

Your name, the date, period, assignment title, page #, and problems must be written on all assignments.

Credit for assignments may be awarded in the following ways:

- Homework may be checked weekly, and a selection of problems may be graded according to a rubric like the one below. Students will have the opportunity in class to ask clarifying questions about assignments before turning them in at the end of the week for credit. If a student has a question about an assignment that is not addressed in class, he or she should seek additional support outside of class.
- Either the teacher or a peer may check homework for completeness.
- Students may be asked to use homework to complete an in-class quiz.
- In order to ensure that students are checking and revising their answers, students may be asked to copy a homework problem (after having the opportunity to address it in class) to be assigned points according to a rubric such as the one below:

4	3	2	1	0
<ul style="list-style-type: none"> • Correct answer • Work shown demonstrates <u>clear understanding</u> of concept 	<ul style="list-style-type: none"> • Work demonstrates <u>clear understanding but with minor mistake(s)</u> 	<ul style="list-style-type: none"> • Work demonstrates <u>some understanding</u> of concept 	<ul style="list-style-type: none"> • Work demonstrates <u>very little understanding</u> of concept <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Correct answer • No work shown 	Problem left blank
An additional point may be awarded for correct and precise formatting (further detailed in class).				

Binder: Throughout the semester, a binder containing all assignments, notes, quizzes, worksheets, etc., will be collected and graded for completeness, organization, and accuracy.

Participation: Students are expected to participate in all lessons. Students are responsible for taking notes, cooperating with groups, staying on task during activities, contributing to discussions, etc.

Assessments: Students should expect an assessment at least once per week. Tests and quizzes (including pop quizzes) will be used consistently to assess student learning. These assessments will typically be cumulative including all topics covered so far. Assessment items may be in a multiple choice, multiple response, comparison/matching, free response or other format. They may be graded for full or partial credit. One possible rubric for awarding partial credit is the following:

4	3	2	1	0
<ul style="list-style-type: none"> • Correct answer • Work shown that demonstrates a <u>clear understanding</u> of concept 	<ul style="list-style-type: none"> • Correct answer • Work not clear/coherent <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Incorrect answer • Work demonstrates <u>clear understanding but with minor mistake(s) unrelated to assessed concept</u> 	<ul style="list-style-type: none"> • Correct answer • No work <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Incorrect answer • Demonstrates <u>some key understanding</u> of concept 	<ul style="list-style-type: none"> • Incorrect answer • Some work shown • Demonstrates <u>very little understanding</u> of concept 	<ul style="list-style-type: none"> • Blank • Response unrelated to problem • Incorrect answer with no work shown

See “Exemplars Standards-Based Math Rubric” for further details

Sample Assessment problem types:

Procedural problems	Conceptual problems
Solve $x^2 + 3x + 2 = 0$	A square has a side length of $(3y + 4)$ feet. If its sides are decreased by 2 feet each, what is its <i>new area</i> ?
Strategic Thinking and Analysis problems	
<p>“Justify” - The graph of $f(x)$ is shown below. Does the graph of $f^{-1}(x)$ pass through the point $(2, 1)$? Justify your conclusion.</p>	<p>“Interpretation and analysis”: Do you agree or disagree mathematically with the work below? If you agree, justify each step in the process. If you disagree, identify where the error is and justify why it is incorrect.</p> <p>Find the number of 3-character passwords made of numbers and letters you can create if there must be at least two numbers:</p> <p>Case 1 – 2 numbers: $10 \cdot 10 \cdot 26 = 2600$ Case 2 – 3 numbers: $10 \cdot 10 \cdot 10 = 1000$</p> <p>Because cases are mutually exclusive, we add. Sum of Case 1 and Case 2: $2600 + 1000 = 3600$</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">There are 3600 ways to create this password</div>
Multiple Choice/Response problems	
<p>Which of the below equations has/have a slope of $\frac{2}{5}$? Choose all that apply</p> <p>a) $x = \frac{2}{5}$ b) $y = \frac{2}{5}x + 1$ c) $y = \frac{2}{5}$ d) $y = \frac{2}{5}(x + 5)$</p>	

For additional problem types, see “Practice and Training Tests” or “Sample Items and Performance Tasks” at www.smarterbalanced.org

Work Load:	Assessments	=	65%
	Classwork/Homework	=	20%
	Final Exam	=	15%
	TOTAL	=	100%

Standards for Mathematical Practice (per LCHS Policy): “During this academic year, you will continue to engage with the Standards of Mathematical Practice, be asked to practice structured student talk, and continue to justify your responses on assessments. This means that you will continue to work like Mathematicians do seeking answers and solutions but understanding that the correct answer is no longer the end point of your work in math, but rather the start. Particular emphasis will be placed on explaining why you chose the math operation you did and how you could apply this to real world applications. To this end, performance tasks that require you to employ your math learning will be essential. This will require you to persevere in the face of math challenges and this disequilibrium is essential to growth as a student of math. You will be supported in your work and you are asked to bring an open mind, willingness to work hard, and share your thinking in class as we improve together our math confidence.

- Students will be working on core math idea(s) each day.
- Students will be presented with clear math tasks daily and be asked to identify and employ multiple pathways to achieve solutions.
- Students will use a variety of resources with increasing effectiveness to build their problem solving abilities. This includes the necessity of sharing their thinking with their peers.
- Students will be asked to employ knowledge gained from earlier math courses and will be supported in this work. No longer can students “test and forget,” but rather must continue to add to their body of math foundational skills.
- Students will be required to justify and explain why they selected the answer they did and disprove incorrect answers while balancing evaluation of the math strategies used to achieve that incorrect answer.”

Academic Integrity: Students are expected to abide by the La Cañada High School Honor Code. Students are to do their own work, except where collaboration is permitted. This includes test taking, homework, class assignments and the original creation of papers and projects. **All work submitted by students should be a true reflection of their effort and ability.**

The following are examples of cheating:

Claiming credit for work not the product of one's own honest effort, copying any material and submitting it as your own work, answering a test question by directly quoting another portion of the exam or quiz, providing unwarranted access to materials or information so that credit may be dishonestly claimed by oneself or others

Students who cheat will receive a zero on the assignment and a “U” citizenship grade for the quarter. Consequences of violations will be determined based on the Academic Honesty Policy, which should be consulted for further explanations and repercussions. Students who cheat should expect to be confronted by their teacher or staff member observing this behavior and be subject to any or all of the following additional consequences:

1. Notification of parents/guardian.
2. Establishment of a cheating record with the office of Discipline.
3. Referral of student to the Honor Court.

If you have any questions or concerns, I can be reached by email at adifiore@lcsd.net