Position Announcement
in the mathematical sciences

Proof School invites applications for teaching positions beginning July 2017. Proof School is an independent school located in San Francisco that provides a liberal arts education for students in grades six through twelve who love math.

PROOF SCHOOL

555 Post St, San Francisco
www.proofschool.org
work@proofschool.org

Faculty at Proof School have the opportunity to work with some of the most mathematically talented and motivated students in the San Francisco Bay Area. Our teachers develop innovative math curriculum and help to shape a small school community. Demonstrated excellence in teaching, experience with secondary school students, and strong problem solving ability are all essential, and a bachelor's degree is required. Average class size is expected to be twelve students; the standard teaching load is outlined on the next page. Salaries are very competitive and commensurate with experience. We anticipate hiring three math teachers for the 2017-18 academic year.

To apply for a position in the mathematical sciences at Proof School, prepare an email message addressed to `work@proofschool.org` indicating your interest in the position and attach the four items below. We will only consider complete applications containing all four documents. Note that once a completed application has been received we are not able to replace documents with new versions at a later time.

1. Provide a current CV with educational background, degrees earned, past teaching responsibilities, scholarly work, other relevant experience with middle or high school students, names and contact info of three or four references we may speak with, and any further information desired.

2. Compose a lesson plan for a two-hour class on a topic in graph theory. Assume that your audience consists of strong students who are partway through their first course in graph theory. Structure your lesson to permit students the opportunity to learn material, practice techniques, and engage in a variety of classroom modes. (Students have access to computers. No homework is assigned.) Include specific examples, problems, or activities. Please limit your response to two pages.

3. Let us call a positive integer *friendly* if its only prime factors are 2, 3, and 5. (Thus 120 is friendly but 210 is not.) Suppose we ask a student to create a list of arbitrary, distinct friendly numbers. How many friendly numbers, at the very least, must be in the list to guarantee that some pair of them multiply to a perfect square? Justify your answer, then describe how you might base a miniature student research project on this problem. Naturally, all results and ideas presented must be your own. Please limit your response to a single page.

4. Complete the *Chart of Teaching and Employment Preferences* on the next page.

Completed submissions will be acknowledged via an email. Proof School will begin reviewing applications by early January 2017 and continue until all positions are filled, which we anticipate will occur by the end of March 2017. All candidates will be informed of their final status by the end of April 2017 and are encouraged to notify Proof School if they accept offers elsewhere.

Proof School is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, marital status, national origin, age, mental or physical disability, military or veteran status, or any other characteristic protected by law. Women and minorities are especially encouraged to apply.

Chart of Teaching Preferences

At Proof School the academic year is divided into five blocks, bridged by "build weeks" featuring field trips, themed activities, and student advising. Within a given block all math courses will belong to a single broad category. Therefore teachers must be able to teach across the math curriculum, although not necessarily at the highest level within each category. To facilitate planning, please indicate your teaching preferences for *every* afternoon course listed below using the following guide, either by making annotations directly on this PDF file or by printing, completing, and scanning this page.

R = I am reluctant to teach this course (for instance due to insufficient background or lack of interest in the subject)

W = I am willing to teach this course (having adequate background or the willingness to become sufficiently familiar with the subject)

E = I am eager to teach this course (because of both a strong background and interest in the subject)

_____ Intro Problem Solving	_____ Basics of Geometry	_____ Intro Number Theory
_____ Basic Combinatorics	_____ Euclidean Geometry	_____ Algebraic Num Theory
_____ Partition Theory	_____ Projective Geometry	_____ Finite Fields
_____ Graph Theory	_____ Exps, Logs and Trig	_____ Elliptic Curves
_____ Algebra 1 or 2	_____ Diff/Integral Calculus	_____ Game Theory
_____ Inequalities	_____ Multivariable Calculus	_____ Topology
_____ Linear Algebra	_____ Differential Equations	_____ Statistics
_____ Group Theory	_____ Dynamical Systems	_____ Intro to Python

Employment Preferences

A standard load for math teachers at Proof School consists of teaching a single math class each afternoon (for a total of five math courses, one per block) along with service to the school such as supervising club activities, chaperoning students to and from public transportation, and participating in Build Weeks. We are also open to part-year, extended load, and intern arrangements. Indicate your preference below.

☐ I am interested in a full-year standard teaching load.

☐ I am available on a part-year basis and can teach math courses during the following blocks (please see `www.proofschool.org/about/#schedule-calendar`): 1 2 3 4 5

☐ I would like to be considered for an extended load, which includes one additional morning course. I am qualified to teach the following subjects (e.g. Computer Science, History, Latin, Art):

_____

☐ I am 25 years old or younger and am interested in applying for a Proof School internship (one-year position, reduced service to school, faculty mentoring, research time, and letters of reference).