



Hampshire College Summer Studies in Mathematics

July 10 - August 20, 1977

for high ability high school students
supported by the National Science Foundation

Fifty-five exceptionally motivated and talented secondary school students and a dozen mathematician/teachers will be invited to the Hampshire College campus for a stimulating six week encounter with mathematics in an intense, demanding, and rewarding atmosphere. Working in small classes and individually, participants will actively engage in the processes of mathematical thought: investigating concrete problems, seeking patterns and generalizations, formulating conjectures in the language of mathematics, and applying insight and experience to the creation of proofs. The entire faculty will live on campus and will join students for meals and recreational activities.

The daily schedule (Monday-Saturday) includes four hours of classes each morning and several hours of independent and small group study. At the start of the summer we will have four workshops, each one led by a college or university mathematician assisted by talented graduate and undergraduate math students. Each workshop will investigate many significant problems from outside the usual secondary school or early college curricula—from rings and randomization to topology and tessellations—but emphasis will be on the methods of discovery and communication rather than on the accumulation of results. Midway through the program participants will choose the direction of their mathematical activities for the remainder of the summer. Classes, seminars, filmmaking, and individual projects have occupied past Summer Studies participants with topics such as combinatorics, symmetry, mathematical logic, map coloring, Lobachevskian geometry, limits, and number theory.

Participants in the Summer Studies will have use of the classrooms, library, lounges, game and puzzle room, and athletic facilities of the Hampshire College campus. Computer facilities will include teletype and graphics terminals connected to the University of Massachusetts KRONOS 2.1 timesharing system and access to other area installations. Programs of films and special lectures by visiting mathematicians are planned.

Each year since 1971 Hampshire College, with the support of the National Science Foundation, has hosted the Summer Studies. We expect the 500 acre campus of former farmland and woods at the foot of the Holyoke range to again provide a pleasant setting for the creation, sharing, and enjoyment of mathematics.

Please share this announcement.

$$\begin{aligned}
 (1+a) &= 1 + (1-a+aa-a^2+a^3) \\
 &= 1+a \\
 &= 1-a+aa \\
 &= 1+aa+a^3 \\
 &= 1-a^2-a^4 \\
 &= 1+a^2+a^4 \\
 &= 1-a^2+aa^2+aa^4 \text{ etc.}
 \end{aligned}$$

Fig. 17

$$\frac{1}{1+1} = \frac{1}{2} = 1-1+1-1+1-1+1-1+1-1 \text{ etc.}$$

Santo π pro periphria circuli, cuius diameter est = 1,

$$\frac{\pi}{4} = \frac{3-5+7-11+13-17+19-23 \text{ etc.}}{4 \cdot 4 \cdot 8 \cdot 12 \cdot 16 \cdot 20 \cdot 24 \text{ etc.}}$$

$k=0.010$

$$Y = X \sin(1/X)$$

