

$\sqrt{3} = 1 + \frac{1}{1} + \frac{1}{2} + \frac{1}{1} + \frac{1}{2} + \frac{1}{1} + \frac{1}{2} + \dots$

$1 + a) \quad 1 \quad (1 - a + aa - a^3 + a^5 - \dots)$

$\frac{1+a}{-a} = \frac{1}{1+a} - \frac{1}{1-a} = 1 - 1 + 1 - 1 + 1 - 1 + 1 - 1 + \dots$

$\frac{\pi}{6} = 1 + \frac{1}{4} + \frac{1}{9} + \frac{1}{16} + \frac{1}{25} + \frac{1}{36} + \frac{1}{49} + \dots$

$e^{\pi i} = -1$

$3, 14159 26535 89793 23846 +$

$\text{Periph. diametr.} = -3 + \frac{1}{7} + \frac{1}{15} + \frac{1}{1} + \frac{1}{292} + \frac{1}{1} + \frac{1}{1} + \dots$

Fig. 8.

Fig. 17.

THEOREMA II

$\sum \frac{1}{n^2} = \frac{\pi^2}{6}$

$\text{Sunt } \pi \text{ pro periphoria circuli, cuius diameter est } = 1,$

$ar \quad bd \quad cy \quad d\beta \quad ea$
 $ep \quad ca \quad d\delta \quad ay \quad hr$
 $da \quad ry \quad b\beta \quad ce \quad ud$
 $hy \quad di \quad aa \quad ed \quad v\beta$
 $ed \quad a\beta \quad ee \quad ha \quad dy$

the 17th
HAMPSHIRE COLLEGE
SUMMER STUDIES
IN MATHEMATICS

JULY 3 - AUGUST 13, 1988

Exceptionally motivated and talented secondary school students 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. Most of the faculty will live on campus and will join with 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 each evening. At the start of the summer we will have several workshops, each 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, complex numbers, limits, and number theory.

Participants in the Summer Studies will have use of the classrooms, library, lounges, game and puzzle room, pool and athletic facilities of the Hampshire College campus. Computer facilities will include access to Hampshire's VAX 750 and many microcomputers. Programs of films and special lectures by visiting mathematicians are planned.

Each year since 1971 Hampshire College, initially with the support of the National Science Foundation, has hosted the Summer Studies. We expect the 550 acre campus of former farmland and woods at the foot of the Holyoke range to provide again a pleasant setting for the creation, sharing, and enjoyment of mathematics.

The illustrations are from the Opera Omnia of the prolific Swiss mathematician Leonhard Euler (1707-1783).

Please share this announcement.

return.

A complete application form includes the signature of a school sponsor who will be asked to write evaluative comments and to administer our three-hour interesting Test. The test will be mailed directly to the sponsor, but candidates typically work on it at home. Our acceptance decision will be made soon after the test's

Feel free to send transcripts, PSAT, SAT, or MA scores and any other information which might help us evaluate your application.

Along with your application, please send a friendly and informative letter to the director explaining why you would like to participate in the Summer Studies. Cite, if possible, specific ideas, books, proofs or problems which have particularly stimulated you; and indicate why you believe you would enjoy the intensive involvement demanded by the Summer Studies.

In the operation of the Summer Studies and in the selection of students and faculty participants, Hampshire College will not discriminate against any person on the grounds of race, creed, color, sex, age, sexual preference, physical disability, or national origin. Hampshire College Summer Studies is an equal opportunity and affirmative action employer.

The full cost of the Summer Studies will be \$1445. This includes tuition, full room and board, health coverage at the University of Massachusetts, and a recreation fee. Financial aid has been made available by Hampshire College, IBM, and other generous friends of the Summer Studies to help meet the expenses of the students who would otherwise be unable to attend. Candidates wishing to apply for financial aid should so indicate on the application form. Admission to the Summer Studies will not be based on financial need.

David C. Kelly, Director
Summer Studies in Mathematics
Hampshire College
Amherst, Massachusetts 01002



the 17th
HAMPSHIRE COLLEGE
SUMMER STUDIES
IN MATHEMATICS

For high ability
high school students

JULY 3 - AUGUST 13, 1988

Hampshire College Amherst, Massachusetts