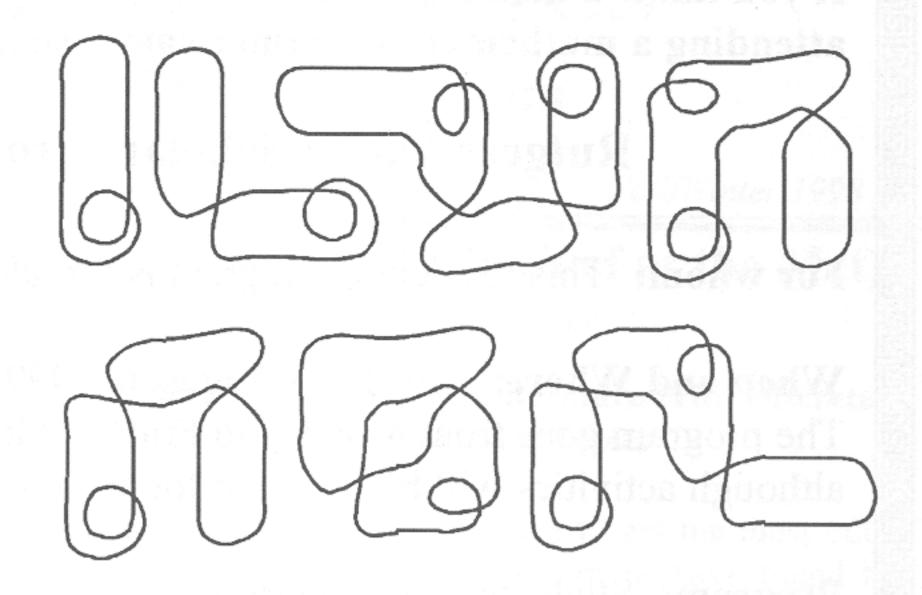
(continued from page 7)

two vertices with two loops, and the vertices are connected to each other by two edges. They appear different but are essentially the same, as shown on page 7.

With some experimentation, your students can discover that there are altogether seven essentially different graphs, as shown at the right.

So the answer to our original question can be either 447, 489, 48, or 7, or even something else, depending on your rules as to what constitutes an "allowed" arrangement.



One of my students presented me with a gift last June...a chalk-holder..."so you won't get chalk all over you when you write at the board..." (I am notorious, especially when wearing black!) I noticed it was well worn with a used piece of chalk, and graciously said "thank you." She said, "It was my father's...and I wanted you to have it..." He was a college professor who died last fall...My eyes welled with tears

— Mary Ann Harasymowycz (LP '97)

Please tell your colleagues about...

## Workshops in Your District Discrete Mathematics for K-4, 5-8, and 9-12 Teachers

**EXPLORING DISCRETE MATHEMATICS**: Would you like the teachers in your school or district to become familiar with topics in contemporary mathematics and use them in your classrooms? If your answer is "yes", consider hosting a workshop on discrete mathematics in your district.

WORKSHOPS IN YOUR DISTRICT! A trained workshop leader will come to your school or district to lead hands-on interactive workshops on contemporary topics in discrete mathematics. Full-day or half-day workshops are available; workshops deal with a variety of topics in discrete mathematics and are addressed to a variety of grade levels of teachers.

WHEN? Workshops will be scheduled on an individual basis at your request. They may be scheduled during the school year or during the summer.

BY WHOM? These workshops are presented by experienced workshop leaders who have participated in the Rutgers Leadership Program in Discrete Mathematics and have used the workshop materials in their own classrooms.

**FOR FURTHER INFORMATION, INCLUDING FEES**: Contact Program Coordinator Debby Toti by email at toti@dimacs.rutgers.edu or by phone at 732/445-4065, or check the web at http://dimacs.rutgers.edu/lp/workshops/.