

CONSIDER THE COMPOSITE fresh man definition of mathematics, as told to Dr. Ira Papick: "A bunch of painful formulas that you have to memorize, abstract nonsense, totally useless and impossible to understand."

Contrast this mind-set with that of Papick. The mathematics professor seems to love formulas almost as much as he loves his wife, Ann Marie McGarry-Papick, whom he married at 7 p.m. on the seventh day of the seventh month of 1977. There were seven guests—including two Irish setters.

The beauty Papick sees in mathematics sends shivers down his spine. "I want students to have the same feeling as I have. I try to show them that in mathematics there is a lot of beauty. My challenge is to show them I'm not a maniac."

Papick's zeal for mathematics resulted in The Art of Mathematics, a freshman discussion course he created. "In this class, I have the opportunity to get students to believe that college is going to be different from high school. It includes daring to ask, and to answer, questions.

"I HAVE TO TRY to reduce students to the way they were in grade school," says Papick, winner of a prestigious Amoco Foundation Undergraduate Teaching Award. "In kindergarten, students are ready to question everything." But by high-school graduation, he says, emphasis on memorization has squelched their imagination.

In turn, their ability to think is stifled. "When somebody hands you a problem and you don't know how to think, you panic and get math anxiety. My role is to help people use their brains, reasoning and logic."

As Papick puts it, "The best golfers are out there thinking, not just swinging away." In that light, the four golf trophies and two plaques displayed in Papick's office reveal a champion thinker.

Indeed, he describes himself as a specialist in ideas and thinking, rather than a specialist in numbers. "Mathematics is how one statement implies another statement." As an illustration, consider that the diameter of a circle equals two times the radius. If the radius is 5, then the diameter must be 10. "I'm teaching validity," Papick says.

He also strives to teach the spirit of the subject. "You just can't present equations, the cold, cruel facts. You have to add some scenery in the background." Calculus, he says, is teaching the mind of Isaac Newton.

"Papick taught mathematics as an art, mathematics as a discipline, mathematics as amusement and mathematics as a lifelong pursuit," confirms Peggy Israel, AB '82, an attorney in San Francisco.

For another testament to Papick's success, turn to page 210 of *Lisa Birnbach's College Book*. In the sequel to her best-selling *The Official Preppy Handbook*, Birnbach names Papick as one of Mizou's best professors.

"Students probably learn two times as much with Papick as they would in a class where the teacher couldn't hold their atten-

tion so effectively," says Dr. Keith Schrader, professor and chairman of mathematics.

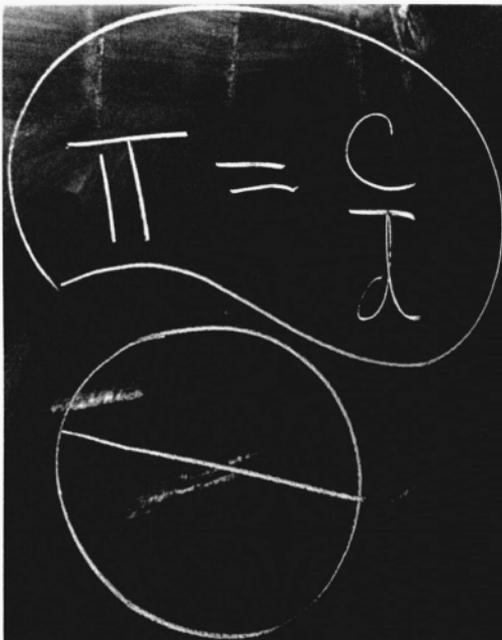
When eyelids get heavy, Papick injects an offbeat remark. "It's not like I plan jokes, but I just sense when something needs to be done to keep their attention." He shuns large lecture courses as too impersonal. "The smaller the class the better. I teach, I don't lecture. I want to involve every single student, to see the whites of their eyes."

Papick's appearance contributes to a re-

lated atmosphere. He goes to class in jeans "because the best thing to do is to go with your own style." For Papick, that means being approachable.

When discouraged students visit his office, Papick hauls out the Plastic Penguin, a battery-powered toy. The birds march up a spiral ramp, then descend to the bottom and start toward the top again.

"You're not always on top, but you can climb back up," Papick tells the student who



IRA PAPICK'S MATH MANIA

By CAROL HUNTER

has bombed a test or let homework slide. One hapless student scored 22 percent on the first exam. "Most people would have given up," Papick says, "but I told him anyone can learn calculus at the University of Missouri. There was just one thing he didn't do: study." The student pulled his grade up to an A.

"People just have to realize it doesn't come for free," Papick says of mastering mathematics. "For students to get to a place

where they can see some of the interesting things, they have to struggle a little." But they should not, he says, feel intimidated. "I find mathematics pleasurable, and I want to pass that on."

In a freshman course, Papick promised a pizza to anyone who could solve an especially difficult problem. When Dan Reed came up with the answer, Papick treated the whole class to pizza. Reed, a 19-year-old chemistry major from Holt, Mo., worked on

the problem for 12 hours. "It was a challenge," he says. "And, of course, there was the pizza."

STUDENT EVALUATIONS consistently give Papick high marks. The few complaints focus on the considerable amount of material covered, but Papick doesn't interpret such comments as criticism. "I enjoy people saying I pushed them to the limit, and that in the end they got something out of it."

In anything, Papick says, "People who do it best were given talent, probably by God, but they have to practice hard." He speaks from experience. As a college student, Papick paid his bills by playing the drums in a rock 'n' roll band, ironically called the Fabulous Failures. The group's high point came in 1964, when it was selected to perform with the Dave Clark Five in New York, Papick's home state. "When I tell students that today, I get blank looks," laughs Papick, who turned 40 in July.

INTENDING to become a secondary-school teacher, Papick earned bachelor's and master's degrees in mathematics education at State University of New York at Buffalo. "But something wonderful happened—I started to learn mathematics. It was like an addiction. I wanted to learn more and more." Papick earned a PhD in mathematics from Rutgers University in 1975.

He came to Mizzou three years later, thrilled by Missouri's natural beauty and Columbia's unique attractions. With 11 Chinese restaurants, Columbia is cuisine heaven to a man who lists cooking and eating Chinese food among his hobbies. The Papick's home west of Columbia near Rocheport provides ample space for their labrador retrievers, King Pellinor and Lady Brenna.

Another drawing card to Mizzou was mathematics Professor James Huckaba, a partner in commutative algebra research. "If I weren't involved daily in the creation of mathematics, it would get old, and I'd just be teaching the same thing day in and day out," Papick says. Research grants have taken him to the University of Rome three times.

The one drawback to Missouri, Papick says, is inadequate funding for higher education. Compared with other states, Missouri consistently ranks in the bottom 10 percent in higher education appropriations per capita. "As funds keep drying up, education is compromised. I would hate to see a good university become unglued because of lack of funding."

Good students are a significant dividend of the University, Missouri's only state-assisted research institution. "The undergraduates are sensational here," Papick declares. "The best ones compare with the best across the nation."

And who knows? "Maybe someday one of my students will refine what Isaac Newton and Albert Einstein did. If you can get students to ask the appropriate types of questions, you have really given them something," Papick says. "If you dare to be creative, you can be the victor." □



Given a choice among his favorite activities, Professor Ira Papick just might choose mathematics over golf. "There is a lot of beauty in mathematics," says Papick, who helps students battle math anxiety with logic. "You can't just present the cold, cruel facts. You have to add some scenery."