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Sherman P. Spaulding, '50; October 26, 1985; Wayland, Mass.
Harris B. Stone, '50; June 16, 1993; Alexandria, Va.
Thomas Leslie Thompson, '51; August 30, 1993; Thayne, Wyo.
Joseph L. Tilenis, '50; August 22, 1993; Greenbelt, Md.
Kenneth L. Holmes, '51; May 3, 1993; Huntsville, Ala.
Walter R. Beckett, '52, SM '57; September 10, 1993; Sudbury, Mass.
Raymond H. Bennighof, SM '52; December 31, 1992; Phoenix, Md.
William B. Farrington, PhD '53; July 17, 1993; Laguna Beach, Calif.
George Sargent Janes, PhD '53; August 14, 1993; Lincoln, Mass.
John L. Jones, '53; August 11, 1993; Houston, Tex.
William F. Holst, '54, SM '55; December 22, 1992; New York, N.Y.
Melvin Pollard, '54; August 12, 1993
David A. Brown, '55; June 27, 1991; Los Alamos, N.M.
Nathan C. Burbank, Jr., ScD '55; August 5, 1993; Tucson, Ariz.
George F. Harper, '55, SM '56; August 20, 1993; Concord, Mass.
Gorken Melikian, SM '57; October 11, 1993; Somers, Conn.
Frank L. Galeener, '58, SM '62; June 6, 1993; Fort Collins, Colo.
Paul R. Getchell, '59; July 18, 1993; Burlington, Mass.
Marian Krzyzaniak, PhD '59; April 14, 1993
Raymond T. Shanstrom, ScD '59; July 24, 1993; Stamford, Conn.
James C. Madden, IV, '60; August 9, 1993; Houston, Tex.
Richard B. Morrill, MAR '60; May 1, 1991; Minneapolis, Minn.
Stanley Y. Ogawa, SM '60; September 24, 1993; San Jose, Calif.
Robert J. Glass, '61; July 21, 1993; Los Angeles, Calif.
Patrick B. Lyons, '61; November 15, 1992; Vero Beach, Fla.
John A. Thompson, SM '61; August 3, 1993
Jerry L. Adams, '62; July 27, 1993; Columbia, Md.
Charles A. Ormsby, '63; March 11, 1993; Centerville, Mass.
Domenic L. Giovachino, '65; May 16, 1993; Annapolis, Md.
Lee W. Sloan, '66; July 18, 1993; San Francisco, Calif.
Thomas M. Dooley, '69; SM '71; October 17, 1993; Arlington, Mass.
George F. Unger, III, SM '69; August 11, 1992; Washington, D.C.
Godfrey Otaigbe, '77; April 17, 1979; Lagos, Nigeria
Eugenio Ocampo, Jr., '78; 1993; Quezon City, Philippines
Gerry A. Berlo, '71; September 11, 1993; Sacramento, Calif.
Carlos Eugenio Dominguez Vial, PhD '81; August 26, 1993; Arlington, Mass.
Thomas J. Kessler, '86; December 19, 1992; East Rochester, N.Y.
E. Balasubramaniam, '90; August 7, 1993; Worcestershire, England

A week ago a colleague complimented the cover of the second edition of my book with George Almasi (*Highly Parallel Computing*). It seems he received an examination copy. This surprised me since we are just now sending in page proofs to the publisher for January availability. As best we can understand it, he received a blurb on the second edition, including a cover picture, and recently used the first edition. Strange. A related occurrence happened to me while waiting with my son for someone to arrive by train. We went to the library and Michael, who *loves* buttons, wanted to use the computer terminals there. So we went to the electronic books in print and looked up mine. Sure enough, the second edition was right there—but I was not listed as a co-author! Virtual reality reigns.

Problems

F/M 1. We begin with a bridge problem that Jerry Grossman reports arose in a Sarnia, Ontario, sectional pairs game.

	North	
	♠ K 10 9 6 4	
	♥ 3	
	♦ K Q 10 7 4 2	
	♣ K	
West		East
♠ J 8 3		♥ Q 7
♥ 9 5 2		♦ K 10 8 7 6
♦ 8 5		♣ 9 3
♣ J 9 6 5 2		♠ Q 10 8 4
	South	
	♠ A 5 2	
	♥ A Q J 4	
	♦ A J 6	
	♣ A 7 3	

The contract is an ambitious 7 NT. West leads the 2 of clubs. How do you bring home the contract?

F/M 2. The late Robert High played a game in which two opponents took



SEND PROBLEMS, SOLUTIONS, AND COMMENTS TO ALLAN J. GOTTLIEB, '67, THE COURANT INSTITUTE, NEW YORK UNIVERSITY, 251 MERCER ST., NEW YORK, N.Y. 10012. OR TO: GOTTLIEB@NYU.EDU

PuzzleCorner

turns rolling a die. The loser is the first one not to improve on the other player's last roll. What is the probability that the first player will win?

F/M 3. Dudley Church recommends the following problem from *The Puzzling Adventures of Dr. Ecco*, written by my NYU colleague, Dennis Shasha.

There are 13 logicians in a room, all wearing jackets. On the front of each logician is a name tag and all the logicians have different names. On the back of some of the jackets is a big X. Each of the logicians can see the back of everyone else's jacket, but not his own. Initially, someone comes into the room and says, "At least one of you has an X on his back." The problem is for each logician to figure out whether he has an X or not.

They do this in the course of several rounds. In each round, the logicians who have not yet decided whether they have an X on their backs speak in alphabetical order. Each logician either says:

"I don't know whether I have an X on my back," or "I don't have an X on my back," or "I do have an X on my back and at least one other logician does also but has not yet said that he does," or "I do have an X on my back and all other logicians who do have already said so."

They are not allowed to say anything else.

As soon as a logician decides, that is, announces, that he does or doesn't have an X on his back, he stops speaking. This is what happens: In the first round, four people decide. In the second round, three people decide. One decider in the second round says there are more X's. In the third round, the remaining six decide.

Speed Department

If Greg Fulkerson is giving a demonstration of simultaneous chess games (not necessarily blindfolded), how can he arrange things so that you will never lose

more than 1/2 of the games played (assume an even number of simultaneous games)?

Solutions

OCT 1. Unfortunately, I inadvertently omitted part of the M/J 1 question that Tom Harriman calls "Superwiener." The correct Superwiener is as follows (now renumbered OCT 1).

The opening lead is the three of clubs by West. How does South make the contract of seven spades?

	North	
	♠ 10 9 8 7 6	
	♥	
	♦ A K	
	♣ A 10 9 8 7 6	
West		East
♠		♠ 5 4 3 2
♥ 9 8 7 6 5 4		♥ K Q J 10
♦ 6 5 4 3 2		♦
♣ 3 2		♣ K Q J 5 4
	South	
	♠ A K Q J	
	♥ A 3 2	
	♦ Q J 10 9 8 7	
	♣	

Peter Rauch found this double Vienna Coup (hence the name "Superwiener") to be just his cup (coup) of tea (beer?):

1. Ace of Clubs, throw a diamond
2. Spade 6 to Spade Jack
3. Ace of Hearts, throw Ace of Diamonds
4. Heart 3, ruff with spade 7
5. Spade 8 to Spade Queen
6. Heart 2, ruff with spade 9
7. Spade 10 to Spade King
8. Ace of Spades, throw Diamond King
- 9-13. Run South's Diamonds

OCT 2. Thomas MacDiarmid asks you to cut a triangle out of paper—an equilateral is best to start with. Then fold each of the corners upward so that the vertices meet; the result is a tetrahedron. This does not work for all triangles. MacDiarmid wants you to determine which triangles can be folded into a tetrahedron with just three folds, one for each vertex. The following solution is from Robert Moeser.

Consider the triangle ABC with interior angles a, b, c. In order for any two vertices to meet when folded, it is clear that each side of the triangle must be divided into two equal lengths. Figure 1 shows the triangle with midpoints M, N, and O labeled as well as additional deductions about angles along the fold lines.

In figure 2 we see the cones which are formed when AM is rotated about MO and BM is rotated about MN. In order for A and B to meet at the new vertex T, the cones must intersect. Each cone uses twice the angle between the fold line and the triangle edge. In order for intersection $2a+2b > 180$. Since $a+b+c=180$, we

can infer that $c < 90$. By repeating the identical argument for each set of cones, the requirement for triangle ABC is simply stated as "no angle greater than 90 degrees."

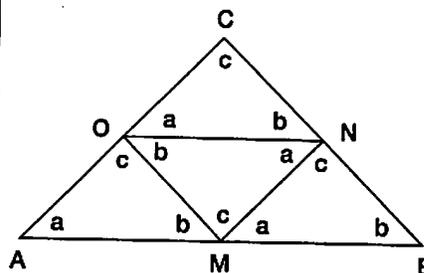


Figure 1

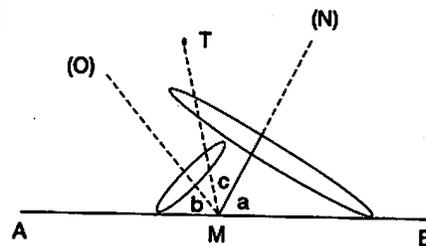


Figure 2

OCT 3. Nob Yoshigahara wants you to replace each letter by a unique digit (excluding zero).

$$\frac{AB}{CDE} + \frac{FG}{HI} = 7$$

The following solution is from Edward Sheldon: AB/CDE must be less than 1, therefore FG/HI must be greater than 6, which means HI must be less than 20, thus H=1. Since C not 1, AB/CDE must be less than 1/2, thus FG/HI must be greater than 6.5. Viable combinations of HI and FG are found as follows:

HI =	12	13	14	15	16
6.5*HI	78	85	91	98	-- <=FG
7*HI	84	91	98	--	>FG

Since the two fractions must reduce to a common denominator, if HI=15, either E or G must be 5, therefore, I=5, and I=2, 3, or 4. The possible solutions for HI and FG are:

HI=12, FG={78,79,83}
HI=13, FG={85,86,87,89}
HI=14, FG={92,93,95,96,97}

There are 12 possible solutions. For each one, A&B come from a set of 5, with only $5 \times 4 = 20$ combinations. $20 \times 12 = 360$, which is small enough for an exhaustive search with a hand calculator. The search resulted in:

$$95/247 + 86/13 = 7$$

Continued on Page MIT 30

Puzzle

Continued from Page MIT 47

Better Late Than Never

1992 OCT 2. Eugene Sard believes that the improved solution suggested in the August/September 1993 issue is mistaken and that the original solution of 169 feet is correct. Sard writes: "The proposed improved solution seemingly ignores the fact that any 'shortest possible route' from 'A to B via the river' is the hypotenuse of a Pythagorean triple." Hence, Sard concludes, 92 and 133 cannot be solutions.

Other Responders

Responses have also been received from K. Bernstein, E. Biek G. Blondin, J. Brown, F. Carbin, J. Chandler, J. Cronin, M. Crystal, A. Dehnel, J. Dorsey, C. Estes, S. Feldman, P. Fermat, M. Fountain, D. Garcia, J. Grossman, A. Halberstadt, J. Harmse, W. Hartford, J. Hearn, R. Hedrick, R. Hedrick, R. Holt, J. Keilin, R. Laeach, D. Lang, P. Lao, P. LeBar, B. Levere, T. Lydon, J. Miller, S. Negahdaripour, J. Peltier, G. Perry, G. Raymond, K. Rosato, E. Sard, H. Sard, S. Shapiro, R. Short, N. Spencer, D. Wachsmann, D. Waggoner, C. Wampler, N. Wickstrand, A. Wiegner, K. Wood, and R. Yaseen.

Proposer's Solution To Speed Problem

Ask to play 1/2 of your games as white and 1/2 as black. When white opponent n makes a move, play that move against black opponent n, then play black opponent n's move against white opponent n and so on. You will probably end up with the same number of wins as losses, but there is always the chance that white opponent n and black opponent n will both resign, giving you two wins with no counterbalancing losses.

Cassandra Santos works on propulsion for NASA's Mission Operations Division in Houston. I spoke with Paul while he was on a recent trip back to New England to attend the Design for Manufacturing and Assembly Workshop in Newport, R.I. He was recently voted into the League City, Tex., volunteer fire department after receiving substantial training in hoses, gear, ropework, arson, and the jaws of life. Although he's not exactly wishing for a League City blaze, Paul had not yet been called into action when I spoke with him in October. Paul enjoys bird-hunting near San Antonio and has also taken up shark fishing in the Gulf of Mexico. On a recent trip 60 miles off the coast, he spent 45 minutes reeling in an 8 ft., 130 lb. hammerhead shark, which he shared with friends and MIT alums at a teriyaki barbeque.

Congratulations to Bennett Brown! The Student Loan Marketing Association (Sallie Mae) recently awarded Bennett with a First-Year Teacher Award, which "recognizes outstanding performance by new elementary

school teachers." Bennett, who was one of 100 teachers nationwide to receive the award, teaches 11th and 12th grade physics and chemistry at Du Sable High School in Chicago. According to "Sallie Mae," superintendents nominate one teacher from their district, who is selected on the basis of their instructional skills; interaction with students, faculty, and parents; and other distinguishing characteristics. A special aspect of the award is that a separate Teacher Tribute Award also honors the teacher who most influenced Bennett's decision to pursue an education career. Bennett chose James Jefson, who was Bennett's mathematics teacher in West Des Moines, Ia.

A picture of Princeton, N.J.'s "Palmer Square" arrives on Nicola Bird's postcard, which she received for free and admits is a bit "cheesy." She continues to enjoy her work with Camp, Dresser, & McKee, an environmental consulting firm, and will attend Columbia University Law School this fall. Nicola visited Eva Regnier, '92, in Paris during June, and sends news that Eva is working on recycling projects for European companies. Nicola recently joined MIT's Educational Council and is interviewing prospective MIT students. She says, "It's a bizarre experience. I feel far too young to be interviewing anyone, and yet I feel so OLD next to these bright-eyed eager young teenagers."

Please send your news and even your cheesiest postcards to: Andrew Strehle, secretary, 566 Commonwealth Avenue, #406, Boston, MA 02215, or call (617) 262-3495

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Hey folks! Well, it looks like this winter season has slowed everyone down a bit. Unfortunately, I received only *one* letter this month. Thank you, Matt "Skeeter" Hockett, for

being my saving grace. Matt is living in Minneapolis and is now well into his second year of medical school at the University of Minnesota. This fall he served as best man at the wedding of Ruth Bunker to Dinesh Lathi. Congratulations, Ruth and Dinesh. In attendance were Jeff Jacobson, Mike Doane, Mike Pieck, CJ Whelan, Bob Rockwell ('93), and Vijay Lathi ('94), the groom's brother. Matt welcomes anyone in Minnesota to look him up.

Matt also posed a good question—How does one go about changing their address with the Alumni/ae Association in order to stay in touch with MIT and other classmates? It's very simple really. You can call Alumni/ae Records directly at (617) 253-8270 and they will update your address, or you can call the Alumni/ae Association at (617) 253-8200. If you forget these phone numbers, call MIT's main information line, (617) 253-1000, and they will connect you. You can also mail a change-of-address postcard to MIT, Alumni/ae Records, 77 Massachusetts Ave., Bldg. 12-087, Cambridge, MA 02139. If you need to reach the Alumni/ae Association, it's Bldg. 10-110 for their main office. You can also send e-mail to John Blake at jblake@MITVMC.MIT.edu. If you write to me, I can also update your address, though I am a much less efficient channel to go through.

I was fortunate enough to see Joanne Guttierrez when I was in Phoenix in October, via the Grand Canyon. Arizona is more than worth the trip if anyone has doubts as I did.

While visiting with Joanne, I found out that Matt Bloom is grinding through medical school at Duke University in North Carolina. We spoke briefly on the phone. Matt says he likes school, but the hours are long and he misses fellow MITers. . . . Also heard news about Jenny Rigney. She is in graduate school at UMichigan. I met a couple of other friends of Jenny's in Phoenix through Joanne. As a matter of fact, we could have played "This is Your Life: Jen Rigney," as we had friends on hand representing her high school, college, and graduate school. . . . Lastly, I also stunned Karl Koschnitski ('93) in Phoenix by unexpectedly showing up at his door. He lives in the same apartment complex as Joanne.

Now comes the moment of truth, friends. I have thoroughly enjoyed reporting our class news for the past year, and as you all may or may not realize, I have at least another four years of reporting to do. At that time, we will have our first class reunion and you may or may not choose to reelect me. No, I am not plugging for reelection. I am asking you to continue to make my job as fun and successful as it has been for the past year by writing to me. You've all been great. But if one more month goes by without news from you, I will fall into a seriously depressed state and will have to start soliciting information. That won't be easy—we have at least 1,000 classmates scattered across the country as well as others. Please help me let everyone know what you're up to. Thanks.—Leslie A. Barnett, secretary, 42575 E. Hwy. 82, Aspen, CO 81611, (303) 920-1988 (home), (303) 925-1961 (work), or (303) 925-9389 (fax)

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I hope that everyone enjoyed the holiday season with all the family and feasting. And back to work so soon! What ever happened to having January off? But back to what our

classmates are up to.

The other day I got on the M2 bus from Vanderbilt Hall to Harvard Square, and there were Karen Lee, Wyn Kao, Kenway Louie, and Yvonne Lin. Karen and Wyn are both in the HST program. They claim they're lucky if they're out of classes by 5 p.m. (classes start at 9 a.m.). Kenway is attending Harvard Medical School and says he likes his classes. He reports that Otway is having a good time at Tufts Medical School, but it's a lot of work. Yvonne is also going to Harvard, but she is studying epidemiology at the School of Public Health. Also living in Vanderbilt Hall are Oliver Chen and Kelly Sullivan.

In other news, Reshma Patel, and our class president, is working in investment in New York City. . . . Our VP, Ivana Markovic, is working as a chemical processes engineer at Michelin down in South Carolina. . . . Lisa Chow, our treasurer, is now part of a think tank in Japan.

Fulfilling their Navy ROTC obligations are ensigns Joseph K. Rivera, Juan C. Garcia, John G. Abbamondi, Andrew J. McFarland, and Frank J. Desimone. . . . Finally, I would like to congratulate Chad Gunnlaughsson on his engagement to Rebecca Milam ('94).

Please feel free to tell us what you are up to! Address your letters to—Mari Madsen, secretary, 12-16 Ellery St., #405, Cambridge, MA 02138