

math news

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KME Meeting

KME will meet on Tuesday, Dec. 2 in DH 215 from 5 to 6 p.m. Dr. Barnet will give a talk entitled, "Five Easy Pieces: Using POV-RAY to Make Computer-Generated Images and Animation. This talk is aimed at students in Calculus II and higher courses

Insurance Company Puzzle

In the small state of Confusion all the life insurance business is split among four companies: Adversity Insurance Company; Bad Luck Insurance Company; Calamity Insurance Company; and Disaster Insurance Company. One day the state's attorney general noticed that Adversity had a lot more clients than any of the other carriers.

"Hmm, there must be something illegal at work here," he thought, and he scheduled a press conference to announce an upcoming lawsuit against Adversity.

The bad publicity caused an immediate reaction – clients abandoned Adversity in droves and switched to one of the other three companies. By the next day, each of the other three companies had three times the number of clients they previously had.

After the suit was settled, the attorney general noticed that Bad Luck now had more clients than any of the other three companies. Another press conference followed, and once again the fickle public responded by leaving Bad Luck. Each of the other three companies (including Adversity) saw their business triple.

A few months later, when the attorney general noticed that Calamity was now the largest company, he held another press conference. And, once again, clients changed companies, tripling the size of each of the other three companies. A few months after that, the attorney general struck Disaster. And, as you have probably guessed, the business at the other three companies tripled.

With these four high-profile lawsuits completed, the attorney general was very pleased – each of the four insurance companies now had exactly the same number of clients. Assuming that no clients entered or left the market over the course of these activities, and that clients only switched companies when a suit was brought, what was the original market share of each company? (Note: there are an integer number of clients, so the answers are best expressed as fractions.)

Opportunities: Bulletin Board Items

Have you looked at the bulletin boards in the Mathematics Department lately? You might be surprised to see all of the opportunities for jobs and further study shown there. Here are some examples of items on the various boards (across from DH 201 and in the hallway across from DH 222 – DH 227):

- Eleventh Annual Nebraska Conference for Undergraduate Women in Mathematics, to be held Jan. 30 – Feb. 1, 2009, at the University of Nebraska-Lincoln. Application deadline is December 12, 2008. www.math.unl.edu/~ncuwm
- Careers with the Census Bureau. www.census.gov.
- 2009 Jefferson Science Fellowships awarded by the National Academies. Application deadline for 2009 Fellowships is Jan. 15, 2009. www.national-academies.org/jsf.
- Program for Women and Mathematics at Institute for Advanced Study in Princeton, NJ, Jun. 8 – 19, 2009. Application deadline is Feb. 20, 2009. www.math.ias.edu/wam.

Puzzle: Track & Field Competition

Three small state colleges participated in a track and field competition. Each college sent only one representative to each event. Jason, a student at Kennedy College, went to the competition to cheer on his friend Jessica, Kennedy's high-jump champion.

When Jason returned to campus the next day, his roommate Kelly asked how their school had performed. "We won the long jump," Jason replied, "but Jefferson College won the competition overall with a score of 22 points. Our school and Adams College each had only 9 points."

"What was the point system?" Kelly asked. "I really don't remember," Jason said, "but they gave a different number of points for first, second and third place. The point system was the same for each event."

"How many events were there in total?" Kelly asked. "Hey, I didn't pay attention," protested Jason. "I spent my time watching the high jump."

"Was there a javelin throw?" asked Jack, Kelly's friend. "Come to think of it, there was," Jason said. "Which school won it?" asked Jack. "I don't know," replied Jason.

Do you know which school won the javelin throw?

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