

The Morning File: Hey kids, math comes alive with these cool real-life examples

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By Gary Rotstein, Pittsburgh Post-Gazette

A University of Buffalo professor has a great idea: Parents should talk to their children about current events using mathematical terms as part of the explanation. It will not only help the youngsters understand the world, they'll perform better in school.

"Unlike casual chats, these chats about societal issues can both show the real-life value of mathematics to motivate students and improve their number sense," said Ming Ming Chiu, a professor of learning and instruction. He based this on a study of test scores and questionnaires among 15-year-olds worldwide.

Family chats about society and current events are uncommon, however. Dr. Chiu said they occur less than once a month in most households. Some families no doubt consider that unusually frequent.

Dr. Chiu didn't blame anyone for this lack of communication, but we're laying it squarely on the 15-year-olds, with their closed doors and their blank stares and their audiological failure to recognize the pitch of the adult voice -- if it's one from within their own home.

Despite this, Dr. Chiu does make some valid points, so we're thinking about what kind of mathematical extrapolations might be suitable to discuss with the young ones in the family, in order to hone their math skills.

Try these, for starters, as math exercises for the child in your home to work out:

1) If you have at least two public sexual assault allegations against you in the NFL, it equals four to six games of suspension.

Based on that, how many games would you be suspended if you failed to rehabilitate yourself and ended up connected to 17 1/2 sexual assault incidents?

2) To attract a private entrepreneur to run Pittsburgh's parking garage and meter system in return for bailing out the city's pension fund, an increase could be required from \$2 to \$4.50 in Downtown hourly rates for on-street spaces.

How many days of Downtown parking would it take at those rates to become poorer than factory clothing workers in Cambodia?

3) Assume that you think the best strategy to punish BP for its environmental damage is to discontinue filling the tanks at the BP-branded service stations.

How many times would you have to pass by its pumps before your impact on BP equaled its \$14 billion in profits in 2009?

4) Hospital closures in the Pittsburgh area are impacting 1,500 employees of West Penn Hospital, 652 workers at UPMC Braddock and 344 at Suburban General Hospital.

Will it take less time or more time for the call light in your room to be answered by an aide at one of the remaining hospitals? Explain your answer.

5) For the Pirates to avoid an 18th consecutive losing season, they would have to attain a record of 45-14 over the remainder of the season.

Calculate the mathematical probability of that occurring.

6) It has been estimated that the bars and restaurants spanning the area between Station Square and the SouthSide Works can serve up to 20,000 people.

If those were filled by individuals who averaged three alcoholic beverages each, how many cases of public urination would that add up to in alleyways adjacent to Carson Street by evening's end?

7) **The Southwestern Pennsylvania Commission, which sets transportation priorities for the region, estimates that road and bridge funding will be reduced by 32 percent, or \$880 million, for the next four-year cycle.**

Based on that, chart the estimated annual increase in the number of swear words uttered by local motorists.

8) **The Port Authority has people taking 67 million rides a year on its buses and trolleys. It threatens to eliminate 48 routes due to a lack of state funding.**

Would you count on one hand or two the number of Port Authority executives who would have trouble getting to work because they rely on mass transit?

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Ruth Ann Dailey will return later this month.

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