BOOK REVIEWS

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She Does Math! real-life problems from women on the job, edited by Marla Parker.


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Thirty eight women working in a variety of careers (engineering, mathematics, computing, biology, management) describe their lives, their feelings about mathematics and the work they currently do. In all cases, competence, confidence and skill in mathematics are essential to their work. Shelley J. Smith avoided math and chose archaeology because it required no math. When she reached graduate school she knew it was needed (to compute shapes of pottery from broken pieces and to do statistical analysis). She overcame her fear and discovered not only that she could do math but that she also enjoyed it.

These are "regular" women who, on discovering what they wanted to do, pursued it. They met the usual challenges: of changing goals (Donna McConnaha Sheehy started in commercial art but after a work-study experience in the Forest Service, moved to civil engineering); of having children (Beth MacConnell, with a new baby, still had to rise at 4 a.m. to track grizzly bears); and of taking care of parents (Nancy G. Roman retired from her job as astronaut at NASA to take care of her mother) to mention a few.

Their stories are written for young women of all ages: telling them it is possible to be successful and to have interesting and challenging jobs; and that the first step is to develop math skills and to have confidence in one's abilities.

With each story the author presents problems based on either her work or her other interests. All are mathematical. The problems range from the very simple (formatted stock prices) to the far too obscure and difficult (determining prism diopters, determining a star's perigalactic distance). Many were confusing with important aspects undefined – they could be answered only after one first studied the solution. Many were simply substitutions into an unexplained formula - these same problems could often be solved by careful thought without the formula.

Some required formulas and ideas from physics which were presented only in the solutions, and then often without explanation. Some were simple arithmetic and others required calculus. On the other hand, there were some well-written problems that encouraged the reader to explore and search for understanding: such problems were regrettably in the minority.
Perhaps the greatest difficulty I had was in trying to understand who the book was written for. I fear that in trying to reach all young women, regardless of math background or feelings about math, it will fail them all. I hope that any future edition will begin by targeting the audience and then ensuring that the problems and their solutions are written specifically for them.

Mathematical Literacy

Here are the answers to the questions posed in the February 1996 issue.

1. Who thought that the binary system would convince the Emperor of China to abandon Buddhism in favour of Christianity?
   Leibnitz

2. Who asked which king for one grain of wheat for the first square of a chess board, two grains for the second square, four grains for the third square, and so on?
   Grand Vizier Sissa Ben Dahir asked King Shirhām

3. In which well-known painting, by whom, does a Magic Square appear?
   Melancholia by Dürer

4. Where was bread cut into “Cones, Cylinders, Parallelograms, and several other Mathematical Figures”?
   Laputa — (Gulliver’s Travels)

5. Which mathematician said: “Philosophers count about two-hundred and eighty eight views of the sovereign good”?
   Pascal