From the President's Pen

Those who love math can relax, reduce stress and combat boredom through mathematical pursuits. I can remember sitting in a high school history class analyzing the pattern of holes in ceiling tiles, determining the ratio of small holes to large holes, counting the holes in one tile and calculating the number of holes in one classroom and so on.

I estimate the number of people at meetings and calculate the cost per hour. I calculate the number of board feet in ceilings. I doodle patterns created without retracing lines. I determine how much paint would be needed to paint a room. I calculate probabilities. Ah, just listing a few possibilities relaxes me.

My favourite mathematical pursuit of all is knitting. Knitting is inherently mathematical. How do you calculate the area of a sweater? What is the ratio of body circumference to sleeve circumference? If a sweater has 22 stitches and 30 rows to 10 centimetres, how many metres of yarn will the sweater take? Expert knitters regularly indulge in these activities. When asked how many balls of yarn a certain sweater will take, apparently we gaze off into space and pull a number out of thin air. Actually, we perform a rapid mental calculation based on several of the above factors.

Knitting design is heavily based on the golden mean and Fibonacci numbers. If you examine a striped sweater that is pleasing to the eye, inevitably the number of rows in each stripe is a Fibonacci number. If you measure the width of the pattern units in a fisherman knit sweater, they also will be Fibonacci numbers. *Threads* magazine published a very interesting article on knitwear design using the golden mean and Fibonacci numbers (Korach 1990). Kaffe Fassett, perhaps the most famous designer of creative knitted items, uses tessellations and Escher type drawings as the basis for many of his designs.

Knitting is only one area of recreation that is highly mathematical. I could have talked about woodworking, art or many others. People who enjoy school mathematics often enjoy recreational activities that involve the use of math, yet the opposite is not equally true. I know many excellent knitters and woodworkers who say that they were never good at math in school. What a shame that these people did not see themselves as part of a mathematical community. As we continue to focus on building a deep and broad understanding in our students through the connections we forge to life outside of school, I hope that we will continue to find fewer mathematical thinkers who are "not good at math."

Reference

Korach, A. 1990. "A Balancing Act." *Threads* 30: 57–61.

Janis Kristjansson