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WHAT MAKES A GIRL CHOOSE MATHEMATICS?

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I hope that girls reading the title have already retorted: "Why shouldn't she if she wants to!" Girls as well as boys have the opportunity and the ability to choose from a variety of careers and to be successful in them, but it often requires a lot of encouragement from parents and teachers to make up for our lack of confidence. When I was at school I loved maths: well of course I was still terrified of maths exams and I detested endless repetition of similar boring problems, but overall I found mathematics stimulating and challenging and I really wanted the opportunity of continuing with mathematics at the university.

The decision to go to university was not very straightforward for me. There were problems of getting information about university courses and there were financial problems. I was the first of three children and I knew I needed to obtain a scholarship to pay the university fees. Even then it would be a struggle for my parents to support me for another three years. No one in my extended family had been to university so we had to obtain information as best we could. My "counsellor" at the state government Vocational Guidance Section was somewhat less than helpful. He very grudgingly allowed me to see his list of university courses involving mathematics and physics, but he was quite definite that girls "didn't do mathematics", that they "didn't pass", and, even if they did, that there were no jobs available for mathematicians. All of which are patently false! I feel very angry when I think back on that "advice". I hope students today are not misled in this way. There are girls in mathematics, they do succeed, and there is a variety of jobs available for mathematicians ranging from school teaching, university teaching, through to jobs in government and industry in research and development or consultant positions. The Australian Mathematical Society has produced a brochure describing some of the job possibilities for mathematics graduates.

In fact I became more and more determined to do mathematics and/or physics at University if I had the opportunity. It's amazing how hard you can work and how far you can progress if you decide that you really want something - and I think it's worth it. I got to university of course; I enjoyed my studies. Most of the time I felt a bit overwhelmed and out of control as the pace of learning was much faster than at school. I was really glad I had learnt to work by myself; I was also glad of

the advice given me to review every lecture as soon as possible after the lecture so as to be prepared for the next lecture. It's worth working hard so that you can enjoy learning, enjoy achieving, and then enjoy all the other aspects of university life.

I was the only girl in my mathematics classes in my second, third and fourth years. That needed some adjustments socially, after three years at a girl's school; but I soon became "part of the gang". It was good fun. We all worked together and went out together. There's not usually such a disproportionately small number of girls in mathematics classes these days. I would strongly encourage girls interested in mathematics and science to continue with these studies. Enjoy your studies, work hard, and accept advice and support from parents, teachers and counsellors. There's a wide range of interesting careers waiting for you.

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AN OLD PROBLEM

Archimedes Smith was carrying out a census in ancient Greece when he came to the house of Pythogoras Jones. He asked to be told the ages of the children in the household. Pythagoras, who fancied himself as a mathematician, decided to let Archimedes work the ages out. He proclaimed that he had 3 children the product of whose ages was 36. Needless to say Archimedes couldn't deduce their ages from this information alone and asked for extra help. He was told that the sum of their ages was the number of the house next door. Archimedes hastened to check the number on the neighbour's house but found to his surprise that he still could not calculate the ages. Finally he persuaded Pythagoras to admit that his eldest daughter played the lyre. Immediately Archimedes wrote down the 3 ages. What were they?

(The answer is on page 36)