

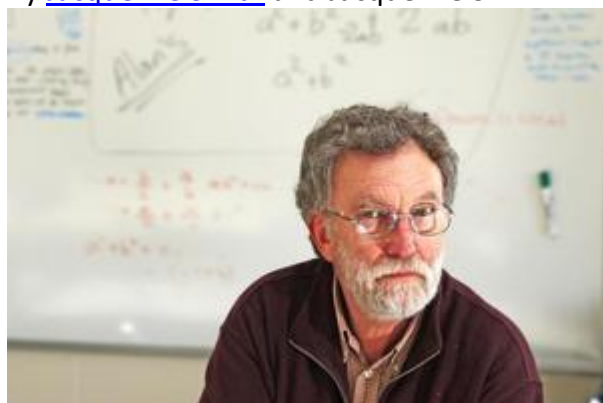
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We fail in basic maths, says lecturer

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By [Jacqueline Smith](#) and Jacqueline Smih



Peter Hughes says our increasing 'inverse pride' at not being good at maths sends a terrible message to kids. Photo / Martin Sykes

Just a third of students going into secondary school are numerate, says a maths lecturer from the University of Auckland.

And because secondary schools focus on algebra, trigonometry, geometry and statistics rather than basic number problems, they may never get a chance to learn the essentials - in fact, numeracy can worsen.

Peter Hughes, the principal lecturer of mathematics at the university's faculty of education, has devised a numeracy test he believes all students should be able to pass by the time they start secondary school.

But he has been told by the head of a secondary school mathematics department that about 70 per cent of Year 11 students would fail it.

Mr Hughes, a former secondary maths teacher who has directed and consulted on national numeracy projects since 2000 and written scores of resource books for teachers, said part of the problem was the perceived meaning of the word numeracy.

He said the general public usually linked the word to numbers and being able to solve problems involving numbers, not to being able to link maths to everyday life.

The Ministry of Education's definition of being numerate is to have "the ability and inclination to use mathematics effectively - at home, at work and in the community".

Most secondary school students do not understand numbers to a level classed as numerate, Mr Hughes said.

"There is an underpinning cancer of number," he said.

Ministry of Education figures put New Zealand's primary and secondary school mathematics achievement at a level above the OECD average.

But Mr Hughes said students were able to gain numeracy credits for NCEA level one by doing trigonometry, algebra and geometry, which rely on rules, without necessarily demonstrating that they understood mathematics.

"Less able students can get their credits by selecting from appalling low-level standards," he said.

Mr Hughes does not believe there has ever been a "golden era" of numeracy.

And he expected the majority of the population would not pass his numeracy test either, adding that failed Bluechip companies would never have had as many investors if they did.

Mr Hughes said historically fewer people used to pass School Certificate mathematics, but that was because fewer people sat School Certificate, fewer people sat the mathematics component, and the standard for a pass was higher.

It had become acceptable to admit failure at high school mathematics as simply not being good at the subject, he said.

"There's almost an inverse pride: 'I was useless at maths at school and that's okay what message does that send kids,' he said.

"These kids are going to go out into the real world and are going to get Bluechipped," he said.

He said setting standards - the National Government's plan - would not help because it was the process of teaching mathematics that needed to be addressed.

*** Test yourself**

Students entering secondary school should be able to answer these questions, according to University of Auckland maths lecturer Peter Hughes.

Use your brain (and not a calculator) to tackle these sums and see if your numeracy sizes up.

1: 69.9×60.08 is closest to:

- A 4000
- B 4200
- C 4400
- D 4600

2: The cost of 0.267kg of cheese is \$7.95. Which calculation is needed to find the cost of 1kg of cheese?

- A $7.95 \div 0.267$
- B $0.267 + 7.95$
- C 0.267×7.95
- D $7.95 - 0.267$

3: $79.8 \div 0.092$ is closest to:

- A 80
- B 800
- C 8000
- D 80,000

4: Which has the largest answer? (Don't do any calculations)

- A 218×217
- B 216×218
- C 217×219
- D 216×217

5: The percentage profit of \$500,909 on sales of \$1,998,976 is nearest to:

- A 10%
- B 15%
- C 20%
- D 25%

Answers:

1: B 4200

2: A $7.95 \div 0.267$

3: B 800

4: C 217×219

5: D 25%