

## Maths Problem Solving Week 6

This week's problems are adaptations based on problems from the Australian Maths Trust Mathematics Competition Papers.

Good Luck

## Senior – Find the Number

In the algorithm below, the letters  $a$ ,  $b$  and  $c$  represent different digits from 0-9. What is the three digit number  $abc$ ?

				$a$
			$a$	$b$
		$a$	$b$	$c$
+	1	0	0	0
	1	9	5	2

## Middle – Tickets Please

At the supermarket deli, you take a ticket from the machine and wait until your number is called. The roll of tickets goes from 000 up to 999. When I was there last week with my friend, we took two tickets in a row and our two numbers added to 867. What was the ticket number before our two?

## Junior – Sports Equipment

Mr A has a \$50 gift voucher to spend in a sports shop, but they won't give change from the voucher. Here is a list of equipment he would like. He tried to spend as much of the \$50 as possible.



\$24



\$14



\$6



\$39

- If he buys no more than one of each item, how much of the voucher will not get used?
- If he buys as many of each item as he likes what should he buy to spend as much of the voucher as possible?