

## Maths Problem Solving Solutions Week 6

### 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  $abc$ ?

				8
			8	5
		8	5	9
+	1	0	0	0
	1	9	5	2

The number  $abc$  is 859

## 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?

If you take one away from 867 then divide by 2 you will get the first of the two numbers.

$$867 - 1 = 866$$

$$866 \div 2 = 433$$

The two numbers must be 433 and 434 (to check we can add them together)

$$433 + 434 = 867$$

So, the number before these two is 432.

## 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?

### ANSWERS

- He could buy the tennis racquet and a skipping rope for \$45, leaving \$5 unused.
- He could buy 1 football and 6 skipping ropes for exactly \$50