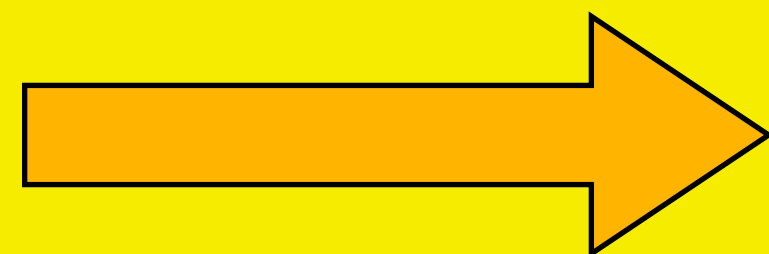


# Choosing Methods

## Learning Objective:

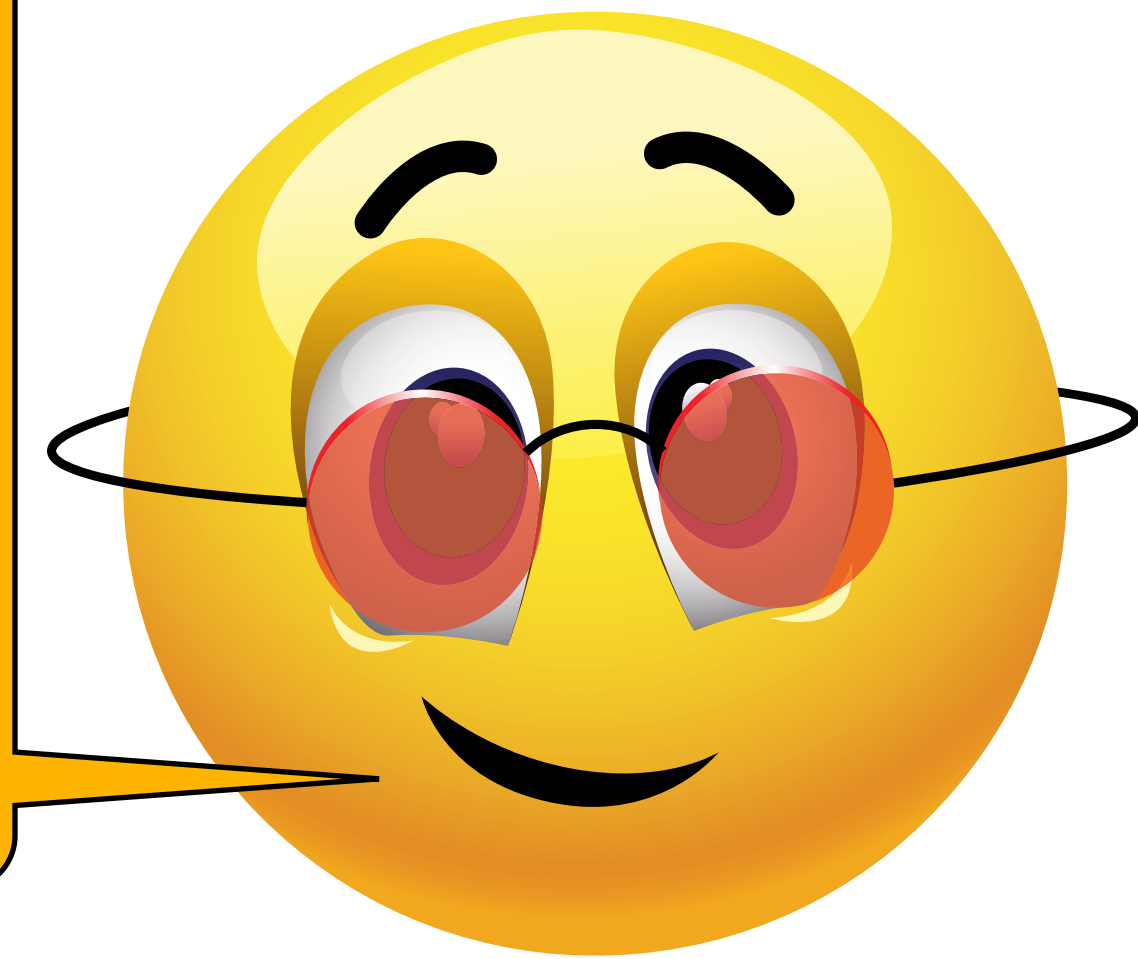
To be able to solve problems involving, addition, subtraction, multiplication and division problems.



A supermarket is going to start selling a new type of cheese. They have decided to hold a special product promotion. For 30 days they will give away samples of the cheese to each customer for free!



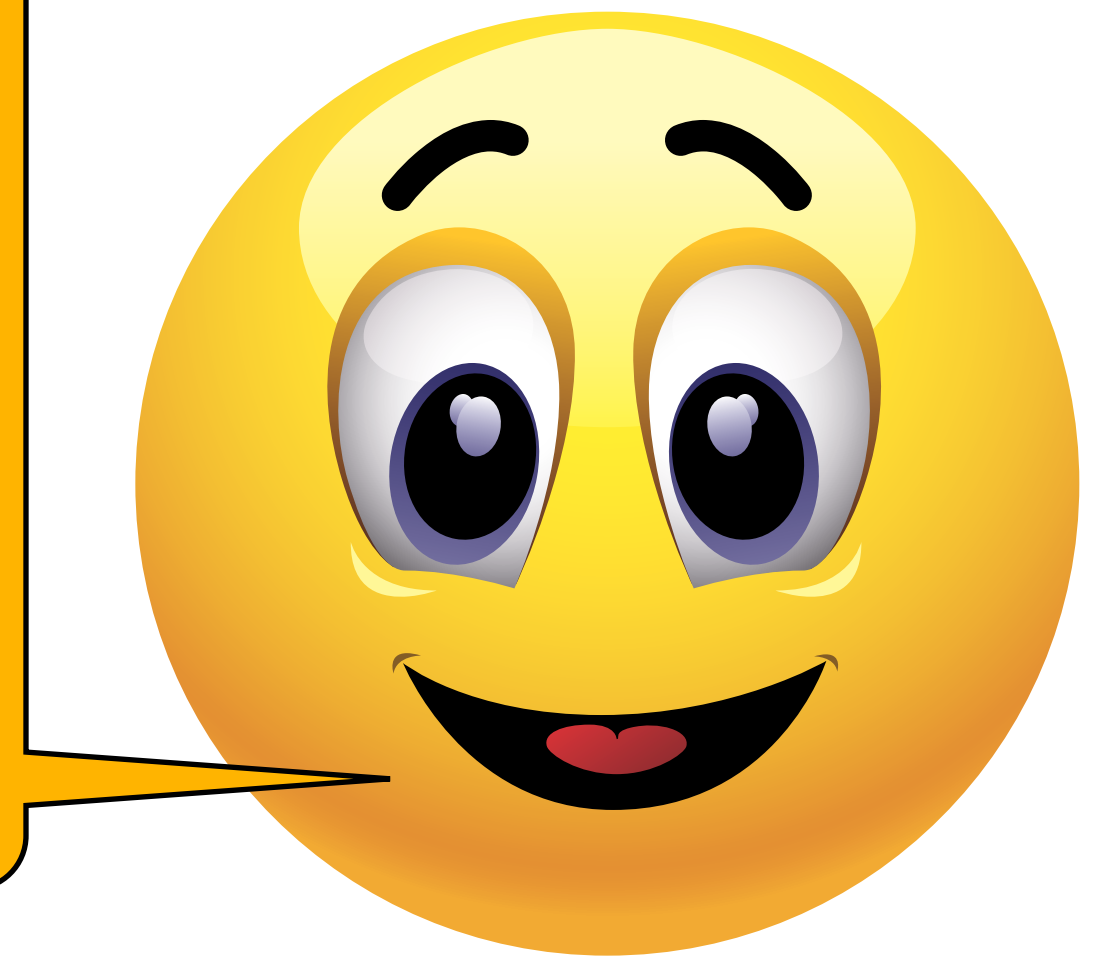
What information will they need to know to ensure they have enough samples of the product?



The supermarket will need to know how many customers are likely to visit the shop in a 30-day period. To do this they keep a record of the number of people that enter the shop each day for a week.



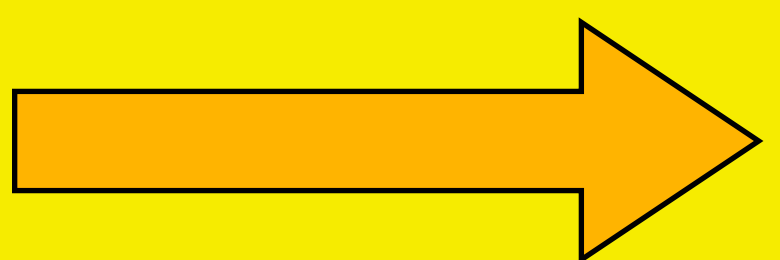
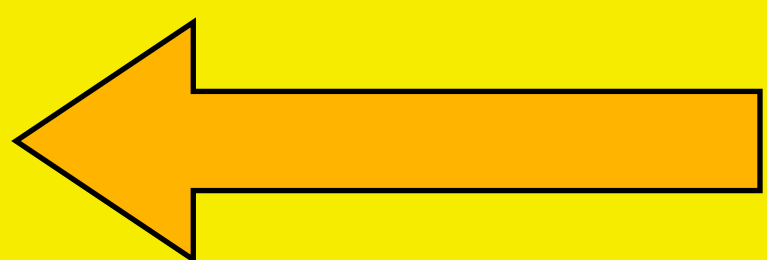
What will they need to do to this information to ensure they have enough samples of the product?



Here are the number of people that visited the supermarket each day for a week. How would you find the total number of visitors for the week? What calculation would you need to do?



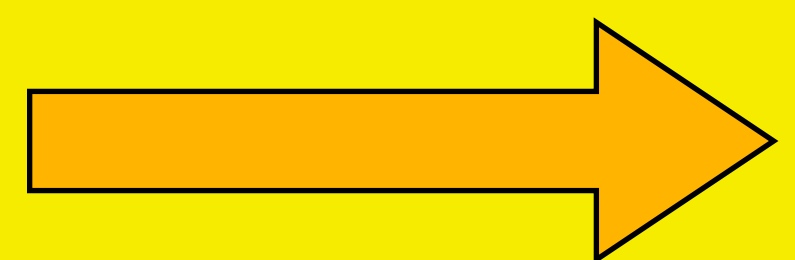
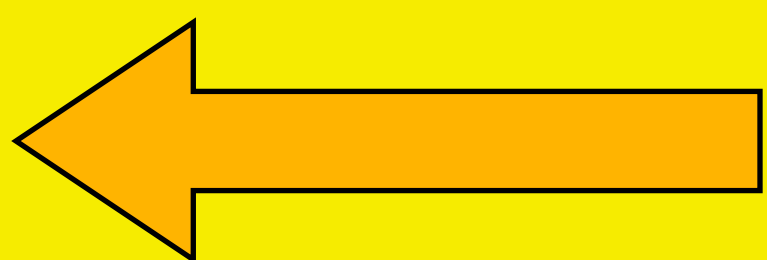
	Visitors per day
Monday	2146
Tuesday	2894
Wednesday	1749
Thursday	2698
Friday	3574
Saturday	6642
Sunday	4797
Total	



To find the total number of visitors for the week you need to add the number of visitors recorded for each day. What is the total number of visitors for the week?



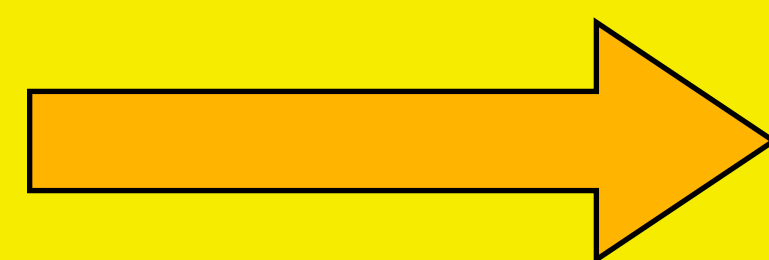
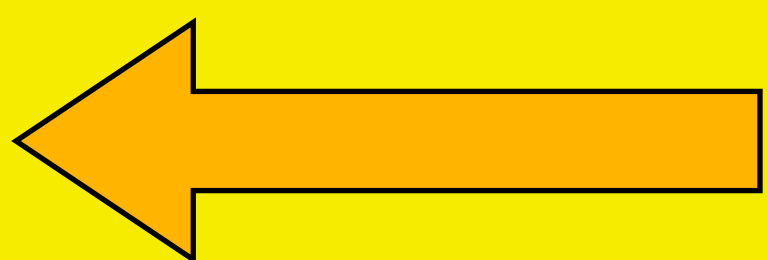
	Visitors per day
Monday	2146
Tuesday	2894
Wednesday	1749
Thursday	2698
Friday	3574
Saturday	6642
Sunday	4797
Total	



Did you get the total number of visitors correct? I used a running total to help me keep track of my calculations. This is also called the cumulative frequency. How did you work out the answer?



	Visitors per day	Cumulative frequency
Monday	2146	2146
Tuesday	2894	5040 (2146+2894)
Wednesday	1749	6789 (1749+5040)
Thursday	2698	9487 (2698+6789)
Friday	3574	13,061 (3574+9487)
Saturday	6642	19,703 (6642+13,061)
Sunday	4797	24,500 (4797+19,703)
Total	24,500	



Now that you know the total number of visitors for a week. How would you work out the average number of visitors for a day? What calculation would you need to do?



	Visitors per day
Monday	2146
Tuesday	2894
Wednesday	1749
Thursday	2698
Friday	3574
Saturday	6642
Sunday	4797
Total	24,500

To work out the average number of visitors for a day you need to divide the week's visitors by the number of days. Can you solve the calculation?



	7	2	4	5	0	0

	Visitors per day
Monday	2146
Tuesday	2894
Wednesday	1749
Thursday	2698
Friday	3574
Saturday	6642
Sunday	4797
Total	24,500



The average number of visitors per day is 3500. Can you use this total to work out the average number of visitors the supermarket will have in thirty days? What calculation would you need to do?



			3	5	0	0
	7	2	4	<sup>3</sup> 5	0	0

	Visitors per day
Monday	2146
Tuesday	2894
Wednesday	1749
Thursday	2698
Friday	3574
Saturday	6642
Sunday	4797
Total	24,500

To work out the number of visitors the supermarket will have in 30 days you need to multiply the average number of visitors a day by the number of days. Can you solve the calculation?



		3	5	0	0
	x			3	0
<hr/>					
<hr/>					

	Visitors per day
Monday	2146
Tuesday	2894
Wednesday	1749
Thursday	2698
Friday	3574
Saturday	6642
Sunday	4797
Total	24,500

Did you solve the multiplication question correctly? Can you say the answer?

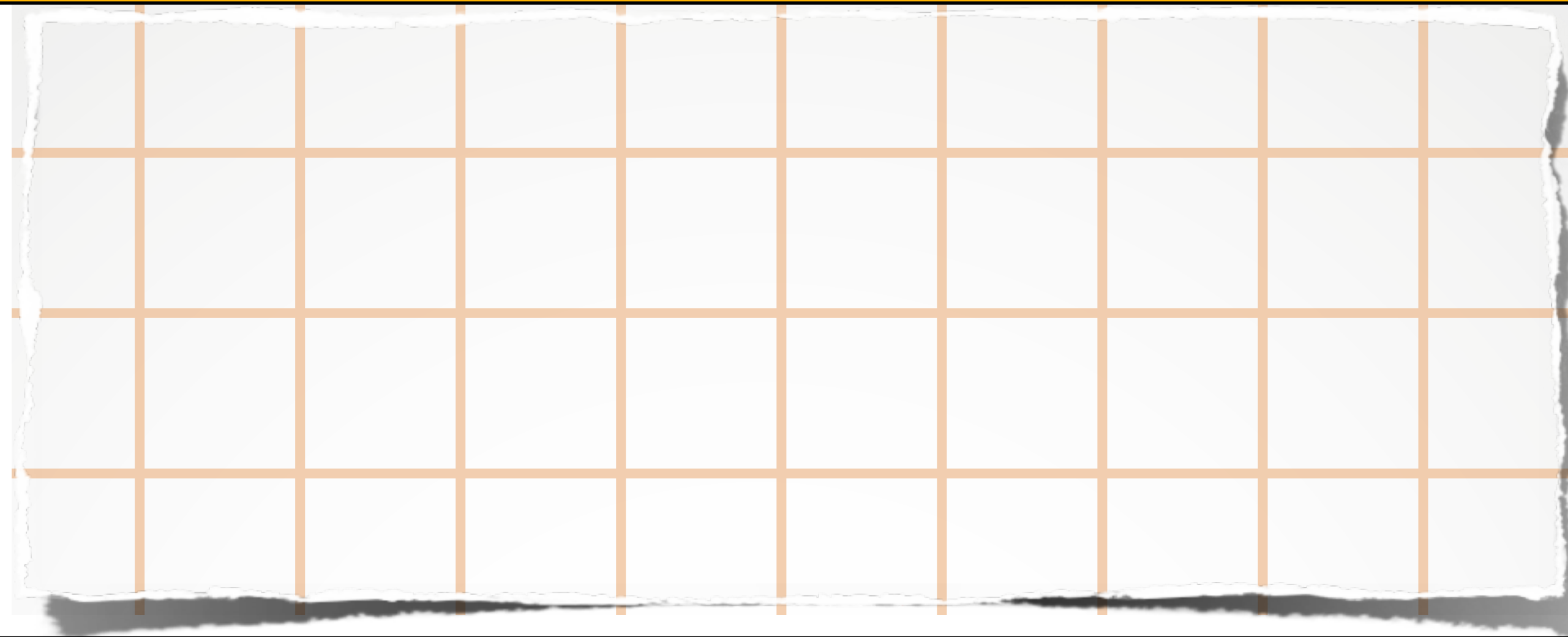


$$\begin{array}{r} 3500 \\ \times 30 \\ \hline 0000 \\ 10500 \\ \hline 10500 \end{array}$$

	Visitors per day
Monday	2146
Tuesday	2894
Wednesday	1749
Thursday	2698
Friday	3574
Saturday	6642
Sunday	4797
Total	24,500

Based on the information we worked out we now know the supermarket will have about 105,000 customers in a 30-day period.

The cheese samples are sold in packets of eight. How many packets of cheese will the supermarket need to buy? What calculation will you need to use to work out the answer?



Based on the information we worked out we now know the supermarket will need to buy 13,125 packets of cheese to have enough samples to give one to each of the 105,000 customers!

Wow! What a lot of maths!



			1	3	1	2	5		
8	1	0	<sup>2</sup> 5	<sup>1</sup> 0	<sup>2</sup> 0	<sup>4</sup> 0			



## Plenary:

Here is an addition number trick to impress your friends with...



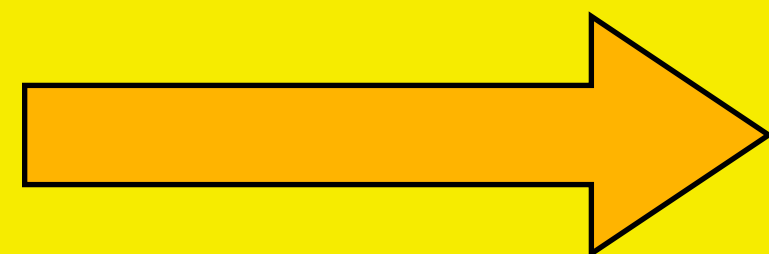
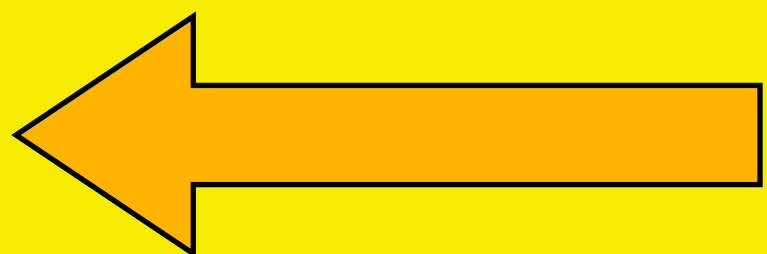
Ask a friend to write down a five-digit number, such as:

23,716

You then write another five-digit number under theirs BUT you need to make sure that each column adds up to nine:

23,716

76,283



They can then write a third row of numbers under yours:



23,716

76,283

42,615

Now here's the trick! To add it up with lightning speed, all you need to do is start from the right and take one away from the last number:

		2	3	7	1	6	
		7	6	2	8	3	
	+	4	2	6	1	5	
						4	

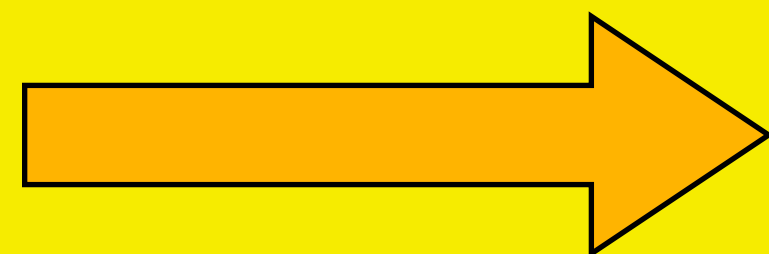
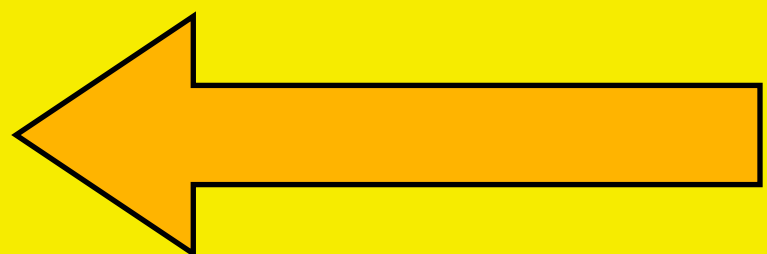
Just take away one from the five to make four.

All you need to do then is copy the remaining numbers from the bottom row and put a one in the hundred thousands column!



It's as easy as that! Let's try another one. First find, a partner...

	2	3	7	1	6
	7	6	2	8	3
	4	2	6	1	5
1	4	2	6	1	4





Person 1	Write a five-digit number.
Person 2	Write a five-digit number underneath the first to make each column add up to nine.
Person 1	Write another five-digit number underneath the other two.
Person 2	Take away one from the number in the units column on the bottom row. Copy out the rest of the numbers from the last row and add a one at the beginning (in the hundred thousands column).
Person 1	Look shocked and amazed at how quickly Person 2 added up these large numbers!

Who could you test this on at home?

