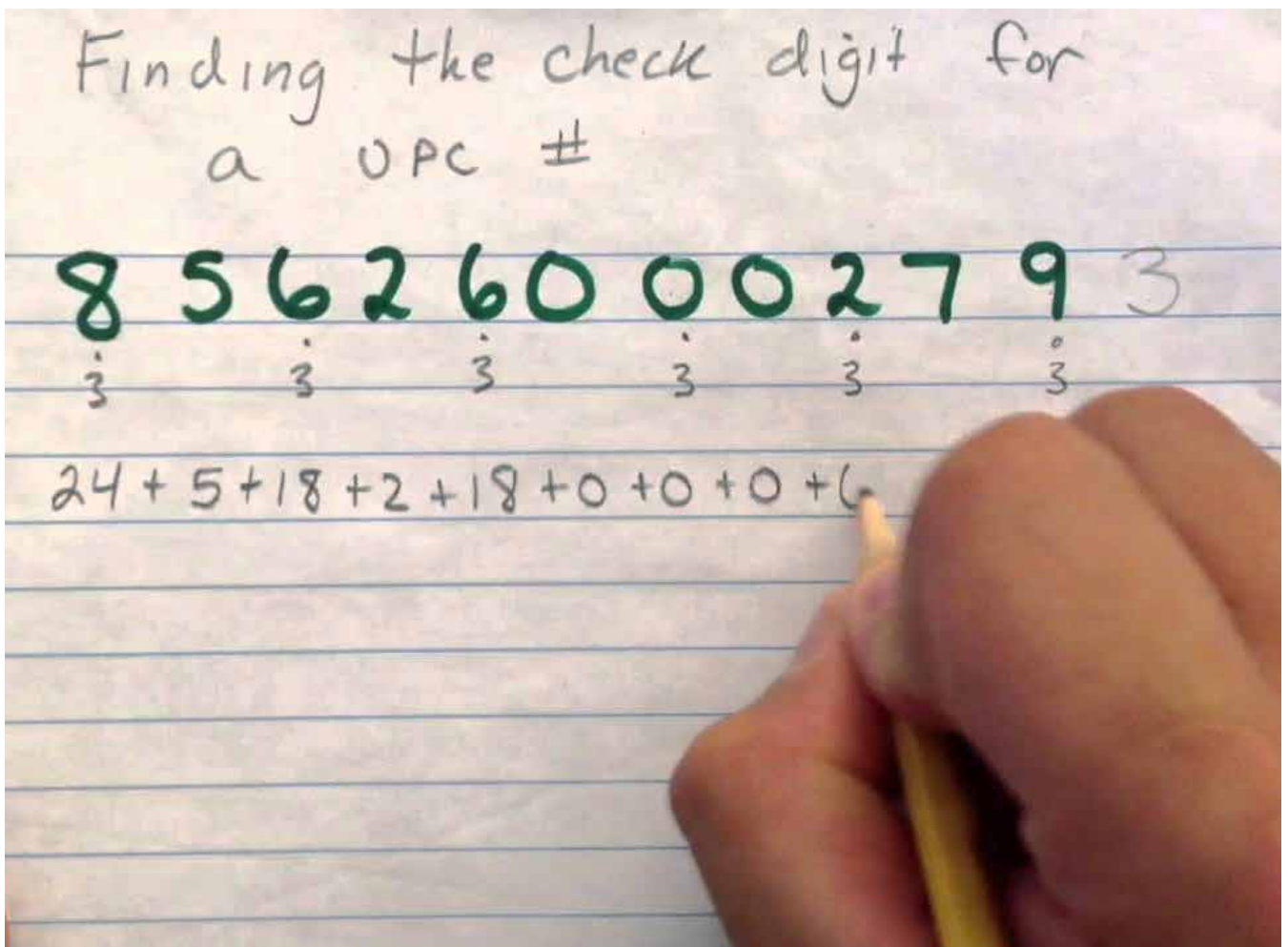# How to...

...calculate your check digit

How to calculate your check digit

All Global Trade Item Numbers (GTINs) and Global Location Numbers (GLNs) end with a computer-generated check digit. This digit is the result of an algorithm (called the Modulo-10 algorithm) which uses the other numbers in the GTIN or GLN to ensure its correct composition.

When you look at My Numberbank you may think that the numbers are not in sequence. This is because the last digit is a check digit based on this calculation. The preceding digits are all in sequence.

As a benefit to your membership, there is a useful online check digit calculator. Login at **www.gs1uk.org** and the calculator is in the Tools & Resources menu.

But if you want to understand how the check digit is calculated then read on.

Calculating your check digit

The calculation is used to create the check digit for all the GS1 Identification Keys that require them, including GTINs and GLNs.

Let's take the GTIN 501234567890C, where C is the check digit.

This is how you calculate it:

1	Starting with the right hand digit of the number, add all the alternate digit values
2	Multiply the result of step 1 by 3
3	Add up all the other remaining digits
4	Add the result of step 2 to the result of step 3
5	The check digit is the smallest number that must be added to this sum to reach a multiple of 10

So to calculate the check digit of the number 501234567890C:

1	0 + 8 + 6 + 4 + 2 + 0 = 20
2	20 x 3 = 60
3	9 + 7 + 5 + 3 + 1 + 5 = 30
4	60 + 30 = 90
5	90 + C = 90. There is no need to round up to a multiple of 10, **so C = 0**
Therefore the complete GTIN is 5012345678900.	

Now let's take GTIN 501234567421C, again where C is the check digit.

1	1 + 4 + 6 + 4 + 2 + 0 = 17
2	17 x 3 = 51
3	2 + 7 + 5 + 3 + 1 + 5 = 23
4	51 + 23 = 74
5	74 + C = 80. Therefore In this example **C = 6**
Therefore the complete GTIN is 5012345674216.	

Additional support

Further information can be found at **www.gs1uk.org/standards**
Our Member Support Team can also help you with any query.

Contact us

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