

Barcodes

The digits in barcodes have the following meanings.

The first two digits indicate the country.

The next five digits indicate the manufacturer.

The next five digits indicate the product.

The final digit is called the 'check digit' and it is included to confirm that the number has been scanned correctly.

The check digit of a barcode, which is the thirteenth digit, is calculated as follows:

Split the previous twelve digits into two sets: those in odd place order (i.e. the first, third, fifth, etc. digit) and those in even place order. These are referred to below as 'odd' and 'even' digits.

Calculate the following:

(the sum of the 'odd' digits) + (3 × the sum of the 'even' digits).

The final check digit is the smallest number you need to add to the result to get a multiple of ten.

EXAMPLE:



(odd numbers: $1+3+5+7+9+1 = 26$)

(even numbers: $2+4+6+8+0+2 = 22$)

$26 + (3 \times 22)$

$26 + 66 = 92$

The next multiple of ten after 92, is 100.

You must add 8 to 92 to get 100.

The final 'check' digit is 8 😊

Look at the barcode images and test this theory. Is it always correct? You can also find some barcodes of your own at home.

