

Verdic Multiplication

Travelling folk in Lincolnshire back in the fifties could be seen in the market place multiplying using their fingers on each hand numbered 6 to 10. Put two fingers together and count the number digits in front as the first number and multiply the behind fingers together for the second digit.

Here's the proof it works.

Write the two numbers vertically and subtract each from 10 to give

8	2
7	3

Subtract either number from its diagonal and write in a third row.

8	2
7	3

5 (ie $8 - 3$ or $7 - 2$)

Now multiply the right column numbers together to get

8	2
7	3

5 6 ie $8 \times 7 = 56$

This method will work with any two numbers, two digit three digit etc.

77

96

Subtract from 100, and calculate the third row as before

77	23
----	----

96	4
----	---

73

Multiply second column to get

77	23
----	----

96	4
----	---

73	92 ie $77 \times 96 = 7392$
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Algebraic Proof

x	$10 - x$
---	----------

y	$10 - y$
---	----------

$(x + y - 10) \times 10$ - the "tens" part

$(10 - x)(10 - y) = 100 - 10x - 10y + xy$

which is the ones part.

Add together

$10(x + y - 10) + (100 - 10x - 10y + xy)$
 $= xy$

I've chosen numbers that "work

well" with the tens/hundreds

separating out cleanly. Sometimes

there is a "carry over" with smaller numbers.

∞ rg

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