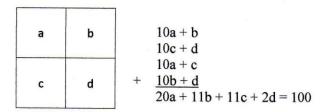
Place value tells us that z in the tens column is worth 10 times its unit value, so (10x5) + (1x5) = (50 + 5) = 55

I used algebra to solve this:



I factored out any HCFs (highest common factors) to get: 2(10a + d) + 11(b + c) = 100 which I can rewrite as: 100 - 11(b + c) = 2(10a + d)

This means that I am looking to subtract a multiple of 11 from 100 to leave a number that is even (because I'm going to divide it by 2).

The multiples of 11 below 100 are 99, 88, 77, 66, 55, 44, 33, 22 and 11. Of these only the even multiples have potential as 100 - odd number = odd number, which cannot be represented by 2(10a + d) and give an integer answer.

100 - 88 = 12, and $12 \div 2 = 6$, which is not a two digit number, so this is not possible.

$$100 - 66 = 34$$
, and $34 \div 2 = 17$, so $a = 1$ and $d = 7$

This leaves 11(b + c) = 66, so (b + c) = 6

I have already used 1, so the only options left are 2 + 4

1	b
С	7

This gives two answers as b and c are interchangeable:

1	4
2	7

2	
7	-

Both grids contain these sums:
$$14 + 27 + 12 + 47 = 100$$

$$100 - 44 = 56$$
, and $56 \div 2 = 28$, so $a = 2$ and $d = 8$

This leaves 11(b + c) = 44, so (b + c) = 4

I have already used 2, so the only options left are 1 + 3

2	b
С	8

This gives two answers as b and c are interchangeable:

2	3
1	8

	Γ
2	1
3	8

Both grids contain these sums: 23 + 18 + 21 + 38 = 100

The only multiple left now is:

$$100 - 22 = 78$$
, and $78 \div 2 = 39$, so $a = 3$ and $d = 9$

This leaves
$$11(b+c) = 22$$
, so $(b+c) = 2$

BUT this is only possible if I use 0 + 2

3 b

This gives two answers as b and c are interchangeable:

3	0
2	9

	T
3	2
0	9

Both grids contain these sums:
$$30 + 29 + 32 + 9 = 100$$

BUT this is outside the rules, as the question says I must use the digits 1 to 9 and create 4, two digit numbers, so really this isn't allowed.

The solutions allowed by the rules are

1	4
2	7

1	2
4	7

2	3
1	8

2	1
3	8 .