Conference Pairs Solution Notes by Zag

Candidates for 4ac are:

11x13=143, forcing 6dn=13 (to avoid duplicate 11's), 9ac=31, 5dn=421. 4ac+7ac can be 361, 400 or 441 giving 7ac values of 218 (but then 2dn+5dn ends 2, impossible for a square), 257 (2dn=735 and 2ac+9ac cannot be a square), 298 (2dn+5dn ends 60 and cannot be a square).

13x17=221 and for a possible 5dn, 6dn=17, 9ac=71, 5dn=241. 4ac+7ac can be 625 or 676 giving 4ac values of 404 (2dn+5dn ends with 51 and no square fits) or 455 forcing 915 for 2dn. From there, 2ac has to be 98 so 2ac+9ac=169. 3dn=83 so 3dn+6dn=100. That works so consider the other 4ac candidates.

17x19=323, forcing 6dn=17, 9ac=71 (to avoid 9ac=91, composite), 5dn=241. 4ac+7ac can be 729 or 784 giving 7ac values of 406 (2dn+5dn ends 71 and no square fits) or 461 (2dn+5dn ends with an ineligible 7).

19x23=437 has no prime 9ac. The same applies for 23x29=667.

29x31=889 allows 6dn=31, 9ac=13, 5dn=833. 4ac+7ac can be 1225 making 7ac=336 then 2dn+5dn ends 26 and no square fits.

This leaves the single solution based on 13x17=221. The maximum that 1ac can be is 18 (from a 2-digit answer of 99) and this determines 1dn=12, leading to 8dn=52 with 1dn+8dn=64. Then 10ac=22 with 1ac+10ac=36.The squares are 36, 64, 100, 169, 676 and 1156 totalling 2201. In Latin that is MMCCI. According to Einstein $E=MC^2$ or MCC and replacing it we get MEI.

[1] 1	4	[2] 9	[3] 8
[4] 2	[5] 2	1	3
[6] 1	[7] 4	5	[8] 5
[9] 7	1	[10] 2	2