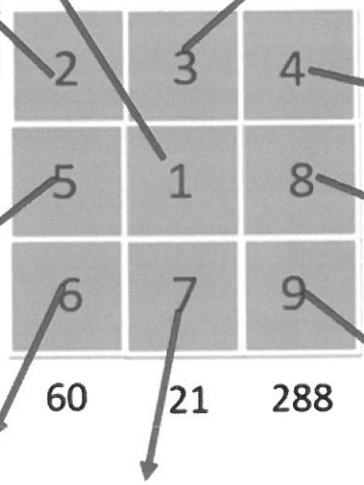
GABRIEL'S PROBLEM – SOLUTIONS!

First Problem – Green Grid

STEP 1: Always start by finding a pair of multiples that only have 1 common factor. In this case, 21 and 40 only have 1 as their common factor, so 1 would be in the centre square.

STEP 2: Next we would find a pair of multiples that only have 1 and another factor. In this case, 21 and 40 have the common factors of 1 and 3, so 3 would take the square common to 21 and 24 because 1 already has its own square.

STEP 7: Since 6 x 5 = 30, we know 2 will take this spot because 60 ÷ 30 = 2.



STEP 8: Since 2 x 3 = 6, we know 4 will take this spot because 24 ÷ 6 = 4.

STEP 6: As 1 is already one of the three numbers multiplying to give 40, we know the adjacent two squares must multiply to give 40 because 40 ÷ 1 = 40. The only two one-digit numbers giving 40 are 8 and 5, however 60 is not divisible by 8 and 5 is so 5 takes this place.

STEP 9: Since 4 x 9 = 36, we know 8 will take this spot because 288 ÷ 36 = 8.

STEP 5: We already know that 6 and 7 are two of the three numbers multiplying to give 378, so 6 x 7 = 42 and 378 ÷ 42 is 9. Consequently, 9 is the third number multiplied with 6 and 7 to give 378 because it is also divisible by 288.

STEP 4: Because 378 ÷ 7 = 54, we have to decide which two one-digit numbers can be placed in the squares adjacent to 7 to give 54. The only possibility is 6 and 9, however 60 is divisible by 9, so 6 must be placed in this square and 9 in the other square on the right of 7.

STEP 3: As 1 and 3 are already two of the squares multiplying to give 21, we know the third number would be 7 because 21 ÷ 3 =7

NB: Problems similar to this that also have a square grid can be answered very similarly to the problem above because they use the same techniques and method.