

## Secret Digit

Keep track of your numbers at every step:

- (1) Choose a random number with multiple digits, not all the same. (e.g. 462831)
- (2) Scramble your number from Step (1). (e.g. 283164)
- (3) Find the positive difference between your numbers in Steps (1) and (2); that is, take the larger number and subtract the smaller number. (e.g.  $462831 - 283164 = 179667$ .)
- (4) Pick a non-zero **secret digit** from your number in Step (3). (e.g. Pick 6: 179**6**67)
- (5) Scramble the remaining digits that you did not pick in Step (4). (e.g. 97617)

Give me your result from Step (5), and I will try to guess your secret digit from Step (4).