



Problem of the Week

Problem A and Solution

Difference of Numbers

Problem

Consider the digits in the box below:

2	5	6	1
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- (a) What is the largest number that uses each digit exactly once?
- (b) What is the smallest number that uses each digit exactly once?
- (c) Find the difference between the number you found in part (a) and the number you found in part (b).

Solution

- (a) To create the largest number, the digits should be arranged in decreasing order with the largest digit in the thousands place and the smallest digit in the ones place. That number is 6521.
- (b) To create the smallest number, the digits should be arranged in increasing order with the smallest digit in the thousands place and the largest digit in the ones place. That number is 1256.
- (c) The difference between the numbers is $6521 - 1256 = 5265$.