

Authenticating integers and arithmetic

1. (Casting out ...) Try to do this problem *without* using a computer or a calculator and *without* directly calculating the number below.

Which is 26^8 ?

Explain briefly why all but one of the following candidates *can't* be correct. (Please give some reason even for the silly ones!)

- a) 12 b) 1403 34806 89017 60706 35406 c) 20 88230 75767
d) 20 88230 64576 e) 20 88270 64576 f) 20 88276 04576

2. (ISBN) a) Get a book. Tell me its author, title, publisher, and ISBN.

b) Write a verification that the ISBN given in the book you got satisfies the mod 11 check condition.

c) Change one digit of the original ISBN. Write a verification that this new candidate for an ISBN no longer satisfies the mod 11 check condition.

d) Interchange (transpose) one nonadjacent pair of digits of the original ISBN. Write a verification that this new candidate for an ISBN no longer satisfies the mod 11 check condition.

April 5, 2000

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