********** **Mathematical Weekly** **********
(week fourteen)

The Magic Divisors of Whole Numbers

(1) Take any whole number, say, 10

(2) List all its divisors (including 1 and itself): 1 2 5 10

(3) Count the number of divisors of each of these divisors:

Divisors of 10 (from above):	1	2	5	10
Number of divisors they have:	1	2	2	4

(4) Do the following two simple calculations:

(4.1) Sum the cubes of these numbers:

$$1^3 + 2^3 + 2^3 + 4^3 = 81$$

(4.2) Square the sum of these numbers:

$$(1 + 2 + 2 + 4)^2 = 81$$

I can assure you that these two results are <u>always equal</u> no matter what whole number you picked at the beginning.

If you don't believe me, simply try another whole number !

☺ **GRC**
EE, CityU
Spring 2002