Common Factors Reasoning Task Answers

True or False?

1 is a factor of every number.

1 is a multiple of every number.

0 is a factor if every number.

0 is a multiple of every number.

1. True—every whole number can be divided by 1.
2. False—1 is only a multiple of 1. The number 1 only occurs in the 1 times table.
3. False—0 is only a factor of 0. We can't share numbers into groups of 0!
4. True—0 multiplied by any number equals 0 which means that 0 must be a multiple of every number.

I am thinking of two 2-digit numbers.

Both of the numbers have a digit total of 6

Their common factors are 1, 2, 3, 4, 6, & 12

What are the numbers?

To work out the answer to this question, I looked at the list of common factors. I noticed that 1, 2, 3, 4 and 6 are all factors of 12 and therefore all numbers with all these factors must be in the 12 times table.

I thought about my 12 times table and wrote down all the ones which have 2 digits: 12, 24, 36, 48, 60, 72, 84, 90.

Then I thought about the final clue. Both of the numbers have a digit total of 6.

24—the digits are 2 and 4, 2 + 4 = 6

60—the digits are 6 and 0, 6 + 0 = 6

Therefore the numbers must be 24 and 60.