You are probably familiar with the game of guessing numbers. The conjurer usually suggests performing operations like the following: think up a number, add 2, multiply by 2, add 3, subtract the original number, add 5, subtract the original number. What do you get and why? The result of the above, as easily seen by algebra, is always 12! That's how one does it. Here are some more for you to puzzle out...

Think up a number. Then

⋮

The conjurer tells you your number, how?

1. Find a number

(1)
- triple it
- say out loud if the result is even or odd.
- if even, halve result. Else, add 1 and half it.
- multiply the result by 3
- Say how many times 9 divide the result.

(2)
- Multiply chosen number by 5
- add 6 to the product
- multiply result by 4
- add 9
- multiply by 5

The conjurer tells you your number, how?

(3)
- Multiply chosen number by any number you like, say a
- divide it by any number, say b
- multiply the result by any number, say c,
- divide the result by any number, say d,
- divide the final result by the number selected originally
- Add to the number considered

2. Force a number

(1)
- add 5
- double
- subtract 4
- divide by 2
- subtract your original number

(2)
- multiply it by any number, say a
- add, say, b
- divide by, say, c
- take a/c of the original number chosen
- take the difference between the last two numbers

(3)
- Take any number with three digits abc for which $a - c > 1$
- Reverse the digits
- Take the difference
- reverse the digits in the last number
- add last two numbers

3. FIND MULTIPLE NUMBERS

(1) Throw two dice (remember numbers but don't share).
- Choose either number, multiply by 5
- Add 7
- double
- add to the result, the other number

(2) Choose three numbers a, b, c such that each of them is less than 10.
- Take one of the numbers, say a and multiply by 2
- add 3
- multiply by 5
- add 7
- add the second number, b
- multiply by 2
- add 3
- multiply by 5
- add c

4. SURPRISE OUTCOME

(1) Pick a 3 digit number, abc
- Duplicate it into a 6 digit number $abcabc$
- divide by lucky 7, divisible!
- divide by lucky 11, divisible!
- divide by *unlucky* 13, divisible!

5. WE AREN'T USING THE DECIMAL SYSTEM ANYMORE, TOTO!

(1)
- What does 84 stand for if 8×8 is 54?
- What does 100 stand for if $5 \times 6 = 33$?