

The Number System

The Number Magician

A magician said to a volunteer from the audience, “Pick a number, but don’t tell me what it is. Add 15 to it. Multiply your answer by 3. Subtract 9. Divide by 3. Subtract 8. Now tell me your answer.”

“Thirty-two,” replied the volunteer.

Then the magician *immediately* guessed the number that the volunteer had originally chosen.

1. Try following the Magician’s instructions and fill in the table with the starting number (IN) and final number (OUT) for several numbers. Study the IN-OUT table until you know how the Magician answered correctly so quickly. (He did not work backwards!)

- Pick a number and write it in the IN column
- Add 15
- Multiply by 3
- Subtract 9
- Divide by 3
- Subtract 8
- Write the final number in the OUT column

IN	OUT

2. What was the volunteer’s number that resulted in an OUT of 32?