

Amazing Numbers Puzzle

Do the puzzle.

1. Pick a number from 1 to 9.
2. Multiply by 5
3. Add 1.
4. Multiply by 20.
5. Subtract 20.

I think that you will see your number and two zeros!

Are you surprised?

Do you think that the puzzle will always work this way? Explain.

Look at how we can apply algebraic reasoning and use expressions to explain the puzzle.

| Puzzle Steps | Mathematical Expression to Show Result |
|-------------------------------|---|
| 1. Pick a number from 1 to 9. | x |
| 2. Multiply by 5 | $5x$ |
| 3. Add 1. | $5x + 1$ |
| 4. Multiply by 20. | $20(5x + 1) =$ $100x + 20$ |
| 5. Subtract 20. | $100x + 20 - 20 =$ $100x$ So, the final result will be your number multiplied by 100. Or, your number with two zeros. |

Develop a new puzzle. Explain what the answer will be and why.