

Problem 1

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Number theory

- Find the last two digits of number $987654321^{12345678987654321}$

Since the base number ends in 1, the last digit ends in 1.

To find the tens-digit, multiple the tens-digit of the base with the last digit of the exponent, so in this case $2 \cdot 1 = 2$

The last two digit of the number $987654321^{12345678987654321}$ is 21.