

## Think of a Number Trick!

Think of a number.

Double it.

Add 3.

Double it.

Subtract 2.

Divide by 4.








Add 4.

Tell me your answer, and I will tell you your original number.

*Secret: To find the original number, subtract 5 from the answer.*

## Algebra

Use algebra to show why this trick works.

Step	Example	Picture	Algebra
TOAN	12		$n$
Double it	24		$2n$
Add 3	27		$2n + 3$
Double it	54		$2(2n + 3) = 4n + 6$
Subtract 2	52		$4n + 6 - 2 = 4n + 4$
Divide by 4	13		$(4n + 4) \div 4 = n + 1$
Add 4	17		$(n + 1) + 4 = n + 5$

*(Secret: Subtract 5)*

12		$(n + 5) - 5 = n$
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Subtracting 5 at the end gives the original number!