

# The Gauss story



- Gauss was a great mathematician (1777-1855)
- When Gauss was in 1<sup>st</sup> grade, the class was misbehaving.
- For punishment, the teacher made everyone compute

$$1 + 2 + \cdots + 100$$

- Gauss did it in 2 minutes. Can you?

# The Gauss trick

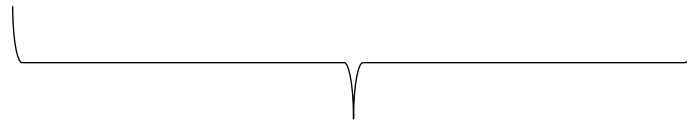


$$S = 1 + 2 + \dots + 100$$

$$S = 100 + 99 + \dots + 1$$

+

$$2S = 101 + 101 + \dots + 101$$



100 terms

$$\Rightarrow 2S = 101 * 100 = 10100 \Rightarrow S = 5050$$

And now the rest of the story



# And now the rest of the story



- This is a **complete fabrication!**
- This is how this story has progressed over time:

YEAR	GRADE	SERIES
≈1870	5 <sup>th</sup>	$1 + 2 + \dots + 60$
≈1920	3 <sup>rd</sup>	$1 + 2 + \dots + 80$
≈1970	1 <sup>st</sup>	$1 + 2 + \dots + 100$
≈2020	Nursery School	$1 + 2 + \dots + 120$

Our conjecture: