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# THE RIEMANN ZETA FUNCTION

$$\zeta(s) = \sum_{n=1}^{\infty} \frac{1}{n^s} = \frac{1}{1^s} + \frac{1}{2^s} + \frac{1}{3^s} + \frac{1}{4^s} + \dots$$

1. What did Riemann hypothesize in his 1859 paper?

all nontrivial zeros of  $\zeta(s)$  lie on the "critical line"

2. How do the zeta zeros relate to the prime numbers?

If you know the values of the nontrivial zeros,  
then you know the distribution of the primes



