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the top 10 most beautiful theorems

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A 1988 poll of readers of the *Mathematical Intelligencer* ranked some of the most well-known theorems in mathematics thus:

1. Euler's identity, $e^{i\pi} = -1$
2. Euler's formula for a polyhedron, $V + F = E + 2$
3. There are infinitely many prime numbers. See Euclid's proof that there are infinitely many primes.
4. There are only 5 regular polyhedra
5. The sum of the reciprocals of the squares of the positive integers is $\frac{\pi^2}{6}$. See the Basel problem.
6. A continuous mapping of a closed unit disk into itself has a fixed point
7. The square root of 2 is irrational
8. π is a transcendental number
9. Every plane map can be colored with just 4 colors
10. Every prime number of the form $4n+1$ is the sum of two square integers in only one way

References

- [1] David Wells, *The Penguin Book of Curious and Interesting Mathematics*. London: Penguin Books (1997): 126 - 127