Art \cap Math = Imagination by S. J. Eigen

Table of Contents

- 1. Symmetry What the artist sees vs what the mathematican sees
- 2. Symmetry Modular arithmetic and prime factorizations
- 3. Symmetry Rosette groups, frieze groups and wallpaper groups
- 4. Escher and his tessellations of the plane
- 5. Similarity, dilations and other transformations down the rabbit hole
- 6. Linear perspective Similar triangles, fraction/ratios and the pythagorean theorem
- 7. Picasso and cubism Linear perspective and the 4th dimension
- 8. 2, 3, 4, 6 Point perspective
- 9. Reverse perspective
- 10. Fractals Infinite processes, limits and complex numbers
- 11. String art calculus
- 12. Hyperbolic geometry What Escher saw
- 13. Artists inspired by mathematics
- 14. Harold and his purple crayon and other artists who do mathematics
- 15. The golden mean and Fibonacci numbers Because everybody knows them