

The Euclidean algorithm

1.1. Finding the gcd

1.2. Linear combinations

1.3. The set of linear combinations of two integers

1.4. The least common multiple

1.5. *Continued fractions*

1.6. *Tiling a rectangle with squares*

1.7. Additional Exercises: Questions on the Euclidean algorithm

Divisors in recurrence sequences

Appendix 1A. Reformulating the Euclidean algorithm

1.8. Euclid matrices and Euclid's algorithm

1.9. Euclid matrices and ideal transformations

1.10. The dynamics of the Euclidean algorithm

Appendix 1B. Computational aspects of the Euclidean algorithm

1.11. Speeding up the Euclidean algorithm

1.12. Euclid's algorithm works in "polynomial time"

Appendix 1C. Magic squares

1.13. Turtle power

1.14. Latin squares

1.15. Factoring magic squares

Appendix 1D. The Frobenius postage stamp problem

1.16. The Frobenius postage stamp problem, I

Appendix 1E. Egyptian fractions

1.17. Simple fractions