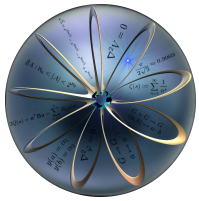

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height of an algebraic number

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Suppose we have an algebraic number such that the polynomial of smallest degree it is a root of (with the co-efficients relatively prime) is given by:

$$\sum_{i=0}^{n} a_i x^i.$$

Then the height h of the algebraic number is given by:

$$h = n + \sum_{i=0}^{n} |a_i|.$$

This is a quantity which is used in the proof of the existence of transcendental numbers.

References

[1] Shaw, R. Mathematics Society Notes, 1st edition. King's School Chester, 2003.

[2] Stewart, I. Galois Theory, 3rd edition. Chapman and Hall, 2003.

[3] Baker, A. Transcendental Number Theory, 1st edition. Cambridge University Press, 1975.