ERRATA: *ENUMERATION OF TOTALLY REAL NUMBER FIELDS OF BOUNDED ROOT DISCRIMINANT*

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This note gives some errata for the article *Enumeration of totally real number fields of bounded root discriminant* [1].

(1) Page 9, paragraph 3, line 2, "2^d or $\lceil m^d/2 \rceil$ possibilities": This is not quite correct. There are certainly $O(m^d)$ possibilities, and this does not affect any other statement in the paper. (One just computes representatives modulo ± 1 for $\mathbb{Z}_E/m\mathbb{Z}_E$: if $m = 2$ then the action is trivial, and there are 2^d representatives; if m is odd then the only fixed point is $a = 0$ so there are $(m^d-1)/2+1 = (m^d+1)/2$ representatives; if m is even then the fixed points are the 2^d elements of $(m/2) \cdot \mathbb{Z}_E/m\mathbb{Z}_E$, so there are $(m^d - 2^d)/2 + 2^d = m^d/2 + 2^{d-1}$. But this does not really make any difference.)

References

[1] John Voight, *Enumeration of totally real number fields of bounded root discriminant*, Algorithmic number theory (ANTS VIII, Banff, 2008), eds. Alfred van der Poorten and Andreas Stein, Lecture Notes in Comp. Sci., vol. 5011, Springer, Berlin, 2008, 268–281.

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