ERRATA: *NUMERICAL CALCULATION OF THREE-POINT BRANCHED COVERS OF THE PROJECTIVE LINE*

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This note gives errata for the article *Numerical calculation of three-point branched covers of the projective line* [1].

(1) (5.9): should be $2/81$, not $81/2$, i.e.,

$$\Theta = 0.3917053\ldots + 1.205545\ldots i = \sqrt[5]{\frac{2}{81}}\exp(2\pi i/5)\left(\frac{1}{\kappa}\right).$$

The numerical value, and this mistake does not affect the other formulas.

(2) (5.10): the doubled minus signs should be just one, so it should read

$$x(w) = \frac{h(w)}{g(w)} = (\Theta w) - \frac{9}{3!}(\Theta w)^3 + \frac{1215}{2\cdot 5!}(\Theta w)^5 - \frac{59535}{7!}(\Theta w)^7 + \frac{12170655}{9!}(\Theta w)^9 - \frac{6708786525}{2\cdot 11!}(\Theta w)^{11} + O(w^{13}).$$

(3) (5.18): the constant factor $2i$ is missing: it should read

$$\varpi_i = \frac{1}{2i}\int_{z(v_i)}^{z(v_i')} \Theta f(z)\,dz = \int_{v_i}^{v_i'} f(w)\frac{d(\Theta w)}{(1-w)^2} \approx \sum_{n=0}^{N} \frac{c_n}{(n+1)!}(\Theta w)^{n+1}\Bigg|_{v_i}^{v_i'}.$$

This mistake is harmless: scaling all periods ϖ_i by the same factor $2i$ amounts to a homothety.

(4) Example 5.26: the constant should be

$$\Theta = \sqrt[5]{24}\left(\frac{1}{\kappa}\right)$$

and the Belyĭ map is

$$\phi(x,y) = \frac{y+x^3}{2x^3}.$$

The remaining expressions are then correct.

References

[1] Michael Klug, Michael Musty, Sam Schiavone, and John Voight, *Numerical computation of three-point covers of the projective line*, LMS J. Comput. Math. **17** (2014), no. 1, 379–430.

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