

Erratum to: Classifying Hilbert functions of fat point subschemes in \mathbb{P}^2

A. V. Geramita · Brian Harbourne · Juan Migliore

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Some of the tables in the originally published version of this paper had errors (see [1]). Corrections have been made to Tables 2, 4 and 7. A version of the paper with corrected tables has been posted on the arXiv as arXiv:0803.4113, version 3.

The corrections are as follows. Line 2 of Table 2 indicated that the Hilbert function h_Z was “1” for a fat point subscheme $Z = 2p$, given a point $p \in \mathbb{P}^2$, but of course h_Z in this case is “1 3”.

The configuration types as listed in Table 4 are not consistent with the types as defined in Table 3. For example, type 1 in Table 4 refers to 7 points on an irreducible conic, but this configuration is defined to be type 25 in Table 3. Here is a corrected version of Table 4, which is now consistent with the originally published Table 3.

The online version of the original article can be found under doi:[10.1007/BF03191208](https://doi.org/10.1007/BF03191208).

A. V. Geramita (✉)
Department of Mathematics, Queen’s University,
Kingston, ON, Canada
e-mail: anthony.geramita@gmail.com

A. V. Geramita
Dipartimento di Matematica, Università di Genova,
Genova, Italy

B. Harbourne
Department of Mathematics, University of Nebraska,
Lincoln, NE, USA
e-mail: bharbour@math.unl.edu

J. Migliore
Department of Mathematics, University of Notre Dame,
South Bend, IN, USA
e-mail: migliore.1@nd.edu

Table 4 Hilbert functions by configuration type for $r = 7$ points

r	m	Type(s)	h_Z
7	1	8, 9, 25	1, 3, 5, 7
7	2	8, 25	1, 3, 6, 10, 14, 18, 20, 21
7	2	9	1, 3, 6, 10, 14, 17, 19, 21
7	1	1, 5, 6, 10, 11, 12, 13, ..., 24, 26, ..., 29	1, 3, 6, 7
7	2	11, 14, 18, 21, 26, 27, 28, 29	1, 3, 6, 10, 15, 20, 21
7	2	5, 10, 13, 17	1, 3, 6, 10, 15, 19, 20, 21
7	2	1, 6, 12, 15, 16, 19, 20, 22, 23, 24	1, 3, 6, 10, 15, 21
7	1	2	1, 2, 3, 4, 5, 6, 7
7	2	2	1, 3, 5, 7, 9, 11, 13, 15, 16, 17, 18, 19, 20, 21
7	1	3	1, 3, 4, 5, 6, 7
7	2	3	1, 3, 6, 10, 12, 14, 16, 17, 18, 19, 20, 21
7	1	4, 7	1, 3, 5, 6, 7
7	2	4, 7	1, 3, 6, 10, 14, 17, 18, 19, 20, 21

Finally, two changes are being made to Table 7. The fourth line of Table 7 has an unnecessary repeated entry. There is also a missing line, which should have immediately followed the fourth line in Table 7. Thus the fourth line of Table 7,

$$8 \quad 2 \quad 111, 121, 126 \quad 1, 3, 6, 10, 15, 20, 23, 24, 24,$$

should be replaced by the following pair of lines:

$$\begin{aligned} 8 \quad 2 \quad 111, 121, 126 & \quad 1, 3, 6, 10, 15, 20, 23, 24 \\ 8 \quad 2 \quad 116, 117, 118, 119 & \quad 1, 3, 6, 10, 15, 20, 22, 24 \end{aligned}$$

Reference

1. Geramita, A.V., Harbourne, B., Migliore, J.: Classifying Hilbert functions of fat point subschemes in \mathbb{P}^2 . *Collect. Math.* **60**(2), 159–192 (2009)