It therefore follows from the theorem of Gloden [2, p. 24] that these a_i, b_i must also satisfy the relation

$$\sum_{i=1}^{6} a_i^7 = \sum_{i=1}^{6} b_i^7 .$$

This is also verified by direct computation. Hence the a_i, b_i given by (3.8) constitute a solution of the following system of equations:

$$\sum_{i=1}^{6} a_i^r = \sum_{i=1}^{6} b_i^r , \qquad r = 1, 2, 3, 4, 5, 7 .$$

As a numerical example, when $t = -3$, we get, after removal of common factors and suitable re-arrangement, the following solution

$$(-19323)^r + (-18689)^r + 3117^r + 5111^r + 14212^r + 15572^r$$
$$= (-20023)^r + (-17828)^r + 1017^r + 9787^r + 10236^r + 16811^r$$

where $r = 1, 2, 3, 4, 5, 7$.

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