Fractional Counting of Integer Partitions

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Not all people, or combinatorial objects, are created equal. Hence it makes sense to count them by `importance', or `significance', rather than treat them all equally.

Added Oct. 31, 2018: [Will Sawin](#), Columbia University, has solved (very quickly!) Question 1. A donation to the [OEIS Foundation](#), in his honor has been made.

Added 10:30am, Nov. 2, 2018: Fernando Chamizo was the second to answer question 1, and his proof is even shorter.

Added 2:30pm, Nov. 2, 2018: Gjergji Zaimi kindly pointed out that Question 1 was posed and answered completely by D.H. Lehmer in Theorem 3 of his article On reciprocally weighted partitions, Acta

Arithmetica XXI(1972), p. 379-388.

Added Nov. 5, 2018: Christopher Ryba (assisted by conversations with Pavel Etingof and Andrew Ahn) has [answered](#) Question 2. A donation of $100, to the OEIS, in his honor has been made.

Added Nov. 6, 2018: Laurent Habsieger indpendently [answered](#) question 1.

Added Nov. 13, 2018: Apparently Question 1 is very natural. It was rediscovered (with full proof) in 1993 by Arnold Knopfmacher and J.N. Ridely in this [article](#) that appeared in SIAM J. Discrete Math, v. 6 (1993), 388-399 (that contains many other interesting results!). Who

knows, perhaps it was done even before Lehmer's 1972 paper?

Maple package

- [FCP.txt](#), a Maple package for the fractional counting of partitions

Pictures produced by FPC.txt

- ## [Histogram of the fractional count of integer partions of n](#)

Sample Input and Output for FCP.txt

- **If you want to see**

  the [input](#) file generates the [output](#) file.

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