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Ayla R. Gafni* (agafni@ur.rochester.edu). *Partitions into values of a polynomial*. Preliminary report.

Let $f(x)$ be an integer-valued polynomial, and let $p_f(n)$ denote the number of partitions of n into values of f . That is, the number of ways to write

$$n = f(a_1) + f(a_2) + \cdots + f(a_m),$$

where $m \geq 1$ and $a_i \geq a_{i+1}$ for each i . We will examine this partition function over various classes of polynomials, and provide an asymptotic formula for $p_f(n)$ given appropriate conditions on f . (Received September 19, 2016)