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From a combinatorial point of view, we consider the discrete Earth Mover's Distance (EMD), which is associated to a metric space equipped with a finite Borel measure. The specific case considered is deceptively simple: Let the finite set  $S = \{1, \dots, n\}$  be regarded as a metric space by restricting the usual Euclidean distance on the real numbers. The EMD is defined on ordered pairs of probability distributions on  $S$ . We provide an easy method to compute a generating function encoding the values of EMD in its coefficients, which is related to the Segré embedding from projective algebraic geometry. This setting is also related to the representation theory of  $SU(p,q)$ . As an application we use the generating function to compute the expected value of EMD in this one-dimensional case. The expected distance can be used to form a Laplacian matrix to be used for spectral clustering, as we show for a specific data set. (Received January 25, 2019)