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determinant of the Vandermonde matrix

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Synonym	Vandermonde determinant

Let  $R$  be a commutative ring with identity, and fix elements  $a_1, a_2, \dots, a_n \in R$ . The determinant of the Vandermonde matrix  $((a_i)^{j-1})_{i,j=1}^n$  is equal to the product

$$\prod_{1 \leq i < j \leq n} (a_j - a_i).$$