



# hypergeometric function

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| Canonical name   | HypergeometricFunction                        |
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| Author           | rspuzio (6075)                                |
| Entry type       | Definition                                    |
| Classification   | msc 33C05                                     |
| Related topic    | TableOfMittagLefflerPartialFractionExpansions |
| Defines          | Gauss hypergeometric function                 |

Let  $(a, b, c)$  be a triple of complex numbers with  $c$  not belonging to the set of negative integers. For a complex number  $w$  and a non negative integer  $n$ , use Pochhammer symbol  $(w)_n$  , to denote the expression :

$$(w)_n = w(w+1) \dots (w+n-1).$$

The *Gauss hypergeometric function*,  ${}_2F_1$ , is then defined by the following power series expansion :

$${}_2F_1(a, b; c; z) = \sum_{n=0}^{\infty} \frac{(a)_n (b)_n}{(c)_n n!} z^n.$$