

Factorials

(%i1) 5 ! ;

(%o1) 120

(%i2) n ! ;

(%o2) n !

(%i3) gamma (x) ;

(%o3) $\Gamma(x)$

(%i4) gamma (3) ;

(%o4) 2

(%i5) gamma (5) ;

(%o5) 24

(%i6) beta (5 , 3) ;

(%o6) $\frac{1}{105}$

(%i7) beta (x , y) ;

(%o7) $\text{beta}(x, y)$

(%i8) makefact (gamma (x)) ;

(%o8) $(x - 1) !$

(%i9) makefact (beta (x , y)) ;

(%o9) $\frac{(x - 1) ! (y - 1) !}{(y + x - 1) !}$

(%i10) makefact (gamma (x + y) / x !) ;

(%o10) $\frac{(y + x - 1) !}{x !}$

(%i11) makegamma ((x + 1) ! / (x + y) !) ;

(%o11) $\frac{\Gamma(x + 2)}{\Gamma(y + x + 1)}$

(%i12) makegamma (z ! · y ! · x !) ;

(%o12) $\Gamma(x + 1) \Gamma(y + 1) \Gamma(z + 1)$

(%i13) makegamma (beta (x , y));

(%o13)
$$\frac{\Gamma(x) \Gamma(y)}{\Gamma(y + x)}$$

(%i14) minfactorial ((x + 5) ! / x !);

(%o14)
$$(x + 1) (x + 2) (x + 3) (x + 4) (x + 5)$$

(%i15) minfactorial ((x + 5) ! \cdot (x + 2) ! / (x ! ^ 2));

(%o15)
$$(x + 1)^2 (x + 2)^2 (x + 3) (x + 4) (x + 5)$$

(%i16) minfactorial ((n + 1) ! / (n + 3) !);

(%o16)
$$\frac{1}{(n + 2) (n + 3)}$$