(10 significant figures accuracy)

n	n!	Stirling′s approximation
10	3628800	3598695.626
11	39916800	39615625.12
12	479001600	475687487.6
13	6227020800	6187239490
14	87178291200	86661001970
15	1307674368000	1300430726000
16	20922789890000	20814114460000
17	355687428100000	353948329800000
18	6402373706000000	6372804647000000
19	121645100400000000	121112787000000000
20	2432902008000000000	2422786855000000000

n	n!	Stirling′s approximation
10	3628800	3598695.626
20	$2.432902008 \times 10^{18}$	$2.422786855 \times 10^{18}$
30	$2.652528598 \times 10^{32}$	$2.645170972 \times 10^{32}$
40	$8.159152832 \times 10^{47}$	$8.142172702 \times 10^{47}$
50	$3.41409320 \times 10^{64}$	$3.36344619 \times 10^{64}$
60	$8.320987113 \times 10^{81}$	$8.309438401 \times 10^{81}$
70	$1.197857167 \times 10^{100}$	$1.196432019 \times 10^{100}$
80	$7.156945705 \times 10^{118}$	$7.149494568 \times 10^{118}$
90	$1.485715964 \times 10^{138}$	$1.484340967 \times 10^{138}$
100	$9.332621544 \times 10^{157}$	$9.324847782 \times 10^{157}$