

$a_n = n(n+1)$	Diverges
$a_n = \frac{3+5n^2}{n+n^2}$	5
$a_n = \cos\left(\frac{n}{2}\right)$	Diverges
$a_n = \frac{e^n + e^{-n}}{e^{2n} - 1}$	0
$a_n = 1/n$	0
$a_n = \sin n$	Diverges
$a_n = \frac{1-5n^4}{n^4+8n^3}$	-5

$a_n = \frac{n^2 - 2n + 1}{n - 1}$	Diverges
$a_n = \frac{n^2}{2^n - 1}$	0
$a_n = \frac{(-1)^{n-1} n}{n^2 + 1}$	0
$a_n = 1 + (-1)^n$	Diverges
$a_n = (-1)^n \frac{n+1}{n}$	Diverges
$a_n = \frac{1 + (-1)^n}{n^2}$	0
$a_n = \frac{(n-2)!}{n!}$	0