

TABLE OF FOURIER TRANSFORMS

The functions in the table are defined for $-\pi < x < \pi$.

<i>function</i>	<i>Fourier series</i>
x	$2 \sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{n} \sin nx$
$ x $	$\frac{\pi}{2} - \frac{2}{\pi} \sum_{n=1}^{\infty} \frac{1-(-1)^n}{n^2} \cos nx$
x^2	$\frac{\pi^2}{3} + 4 \sum_{n=1}^{\infty} \frac{(-1)^n}{n^2} \cos nx$
x^3	$2 \sum_{n=1}^{\infty} (-1)^n \left(\frac{6}{n^3} - \frac{\pi^2}{n} \right) \sin nx$
$f(x)$	$\sum_{n=1}^{\infty} \frac{2}{n\pi} (1 - (-1)^n) \sin n\pi$

The function f in the table is equal to 1 if $0 < x < \pi$ and -1 if $-\pi < x < 0$.