

Figure 1: Original periodic function: $f(x)$.

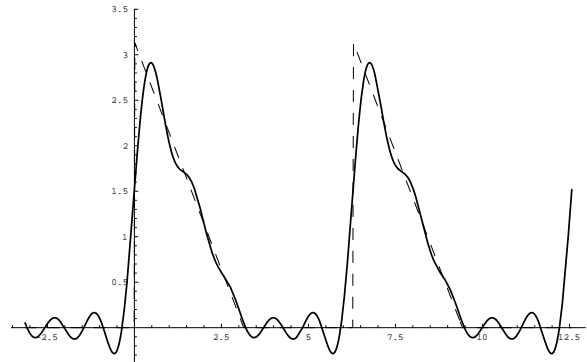


Figure 2: Approximation by the $N = 5$ partial Fourier series.

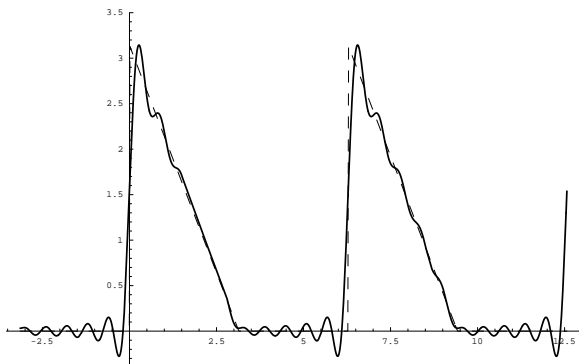


Figure 3: Approximation by the $N = 10$ partial Fourier series.

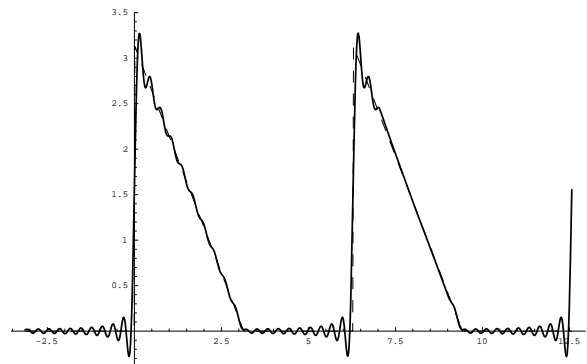


Figure 4: Approximation by the $N = 20$ partial Fourier series.

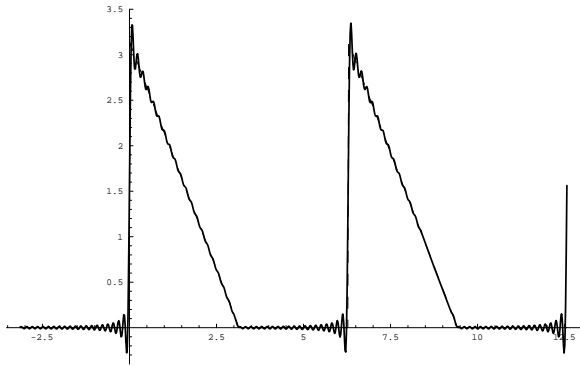


Figure 5: Approximation by the $N = 40$ partial Fourier series

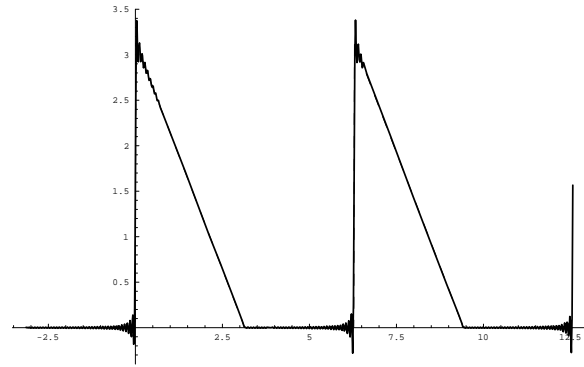


Figure 6: Approximation by the $N = 80$ partial Fourier series