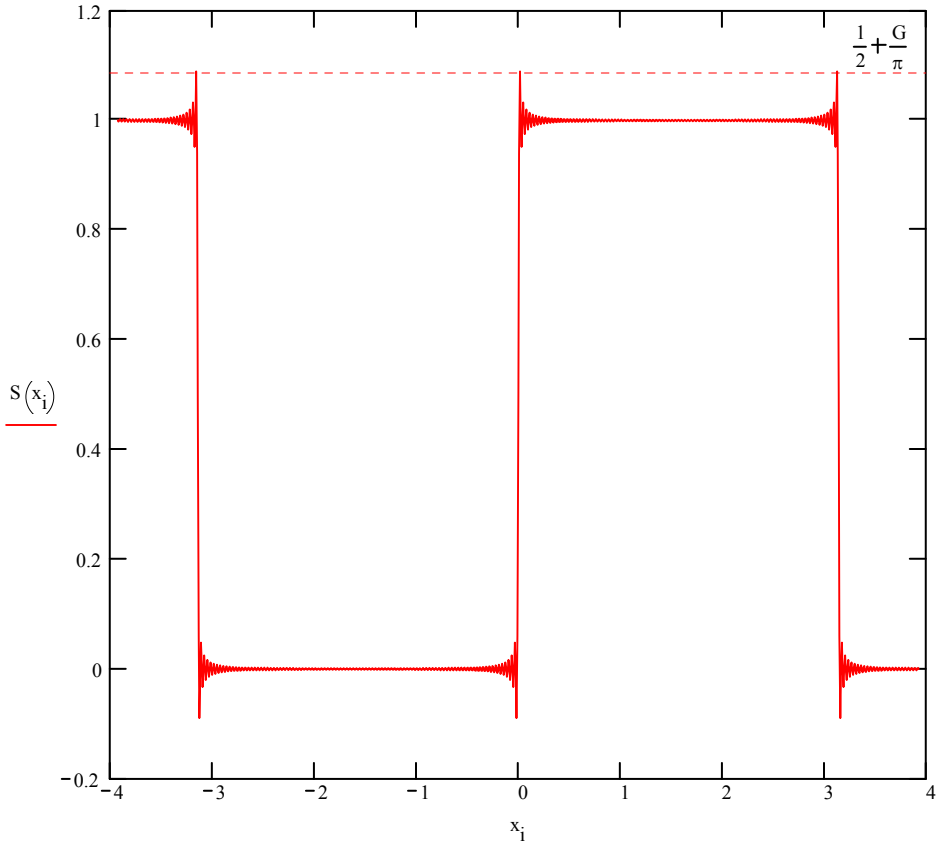
$$G := \int_0^{\pi} \frac{\sin(\theta)}{\theta} d\theta \qquad G = 1.851937052$$ Defines Wilbraham Constant

$M := 100$ include a lot of harmonics

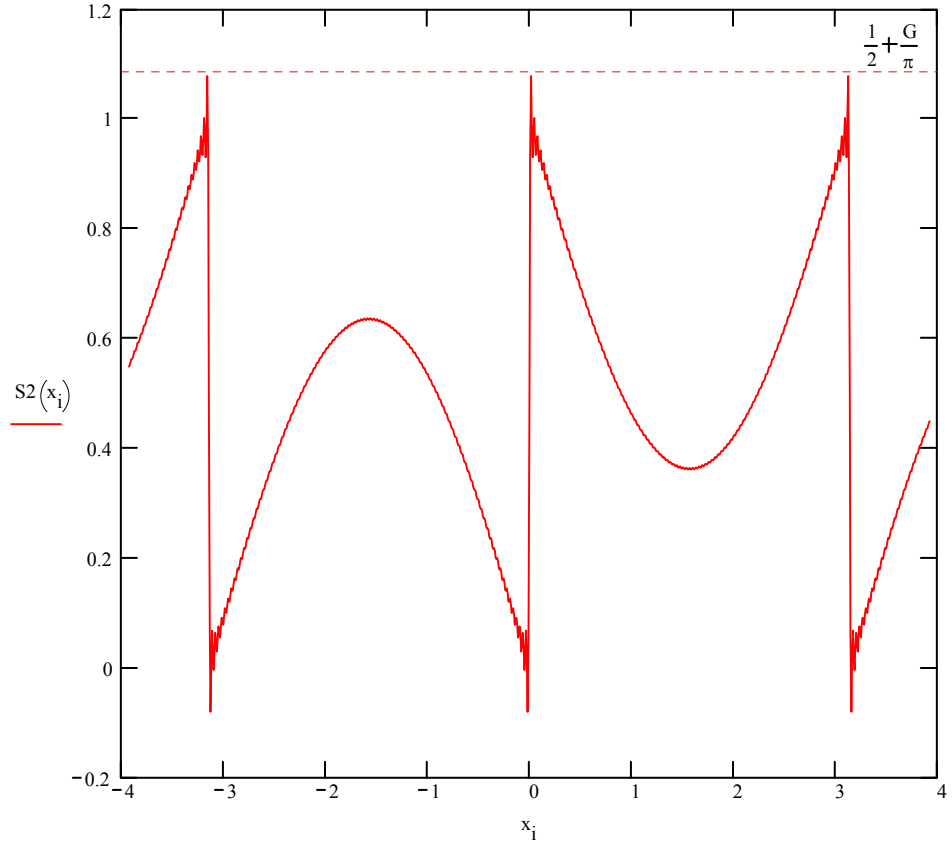
$$S(x) := \frac{1}{2} + \frac{2}{\pi} \cdot \sum_{n=0}^{M} \frac{1}{2 \cdot n + 1} \cdot \sin((2 \cdot n + 1) \cdot x)$$ Square wave series - 1st M+1 terms

$N := 1000$ $i := 0 .. N$ $x_i := \frac{-5 \cdot \pi}{4} + \left(\frac{10 \cdot \pi}{4}\right) \cdot \frac{i}{N}$ set up abscissa for graphs



$$S2(x) := \frac{1}{2} + \frac{2}{\pi} \cdot \sum_{n=1}^{M} \frac{1}{2 \cdot n + 1} \cdot \sin((2 \cdot n + 1) \cdot x)$$

Square wave series - 1st M+1 terms with 1st term omitted



$$S3(x) := \frac{1}{2} + \frac{2}{\pi} \cdot \sum_{n=0}^{0} \frac{1}{2 \cdot n + 1} \cdot \sin((2 \cdot n + 1) \cdot x)$$

Square wave series - only keeping 1st term

This sinusoid has amplitude $\frac{2}{\pi} = 0.6366197724$