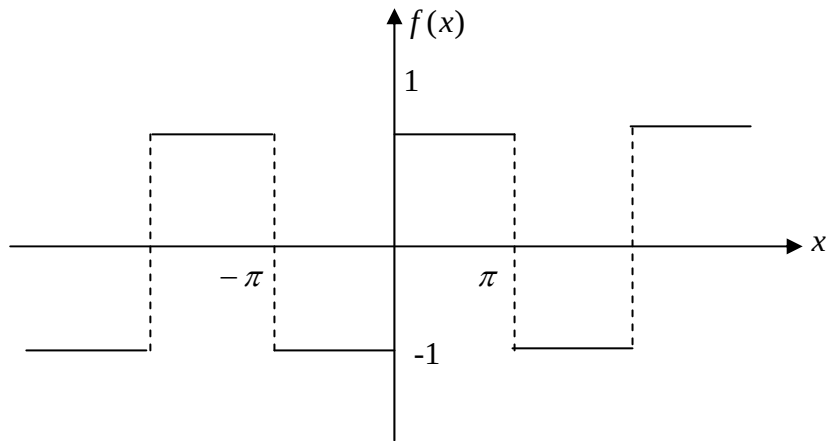


年級：_____ 姓名：_____ 學號：_____

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1.



- (1) Express $f(x)$ in terms of Fourier series and plot.
- (2) Find $f'(x)$ by term by term differentiation and plot.
- (3) Find $f'(x)$ by term by term differentiation after adding the lost term in the course and then plot.

年級：_____ 姓名：_____ 學號：_____

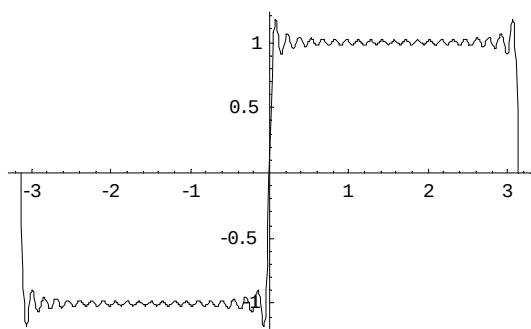
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$$(1) \quad f(x) = \sum_{k=0}^{\infty} \frac{4}{(2k+1)\pi} \sin[(2k+1)x]$$

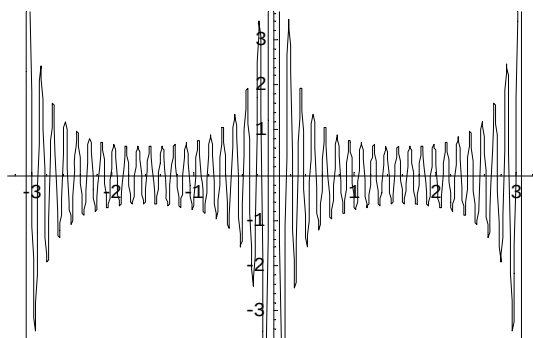
$$(2) \quad f'(x) = \sum_{k=0}^{\infty} \frac{4}{\pi} \cos[(2k+1)x]$$

$$(3) \quad f'(x) = 0$$

$$\text{Plot}\left[\sum_{k=0}^{20} \frac{4}{(2k+1)\pi} \sin[(2k+1)x], \{x, \pi, -\pi\}\right]$$



$$\text{Plot}\left[\sum_{k=0}^{20} \frac{4}{\pi} \cos[(2k+1)x], \{x, \pi, -\pi\}\right]$$



$$\text{Plot}\left[\sum_{k=1}^{20} 0 \cos[(2k+1)x], \{x, \pi, -\pi\}\right]$$

