

$$f[x_] := \text{Which}[-\text{Pi} < x < -\frac{\text{Pi}}{2}, 0, -\frac{\text{Pi}}{2} < x < \frac{\text{Pi}}{2}, 1, \frac{\text{Pi}}{2} < x < \text{Pi}, 0];$$

$$a_0 = \frac{1}{2 * \text{Pi}} * \int_{-\frac{\text{Pi}}{2}}^{\frac{\text{Pi}}{2}} 1 \, dx$$

$$a_n = \frac{1}{\text{Pi}} * \int_{-\frac{\text{Pi}}{2}}^{\frac{\text{Pi}}{2}} 1 * \text{Cos}[n * x] \, dx$$

$$b_n = \frac{1}{\text{Pi}} * \int_{-\frac{\text{Pi}}{2}}^{\frac{\text{Pi}}{2}} 1 * \text{Sin}[n * x] \, dx$$

$$\frac{1}{2}$$

$$\frac{2 \text{Sin}[\frac{n \pi}{2}]}{n \pi}$$

0

$$c_0 = \frac{1}{2 * \text{Pi}} * \int_{-\frac{\text{Pi}}{2}}^{\frac{\text{Pi}}{2}} 1 \, dx$$

$$c_n = \frac{1}{2 * \text{Pi}} * \int_{-\frac{\text{Pi}}{2}}^{\frac{\text{Pi}}{2}} e^{-i * n * x} \, dx$$

$$\frac{1}{2}$$

$$\frac{\text{Sin}[\frac{n \pi}{2}]}{n \pi}$$