

HW 1

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library(ggplot2)
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Task: find the area of a figure bounded by curves given by the equation:

$$y = 2|x| - \pi, x \in [-\frac{\pi}{2}, \frac{\pi}{2}]$$

$$y = |\sin(2x)|, x \in [-\frac{\pi}{2}, \frac{\pi}{2}]$$

using the Monte Carlo method.

You can read about this method in any resource.

For example: https://www.mathonweb.com/entertain/monte/t_monte.htm

This is a graphical representation of the equations:



To generate random dots you may use **runif** function,

Use help function “?runif” to understand how it works.