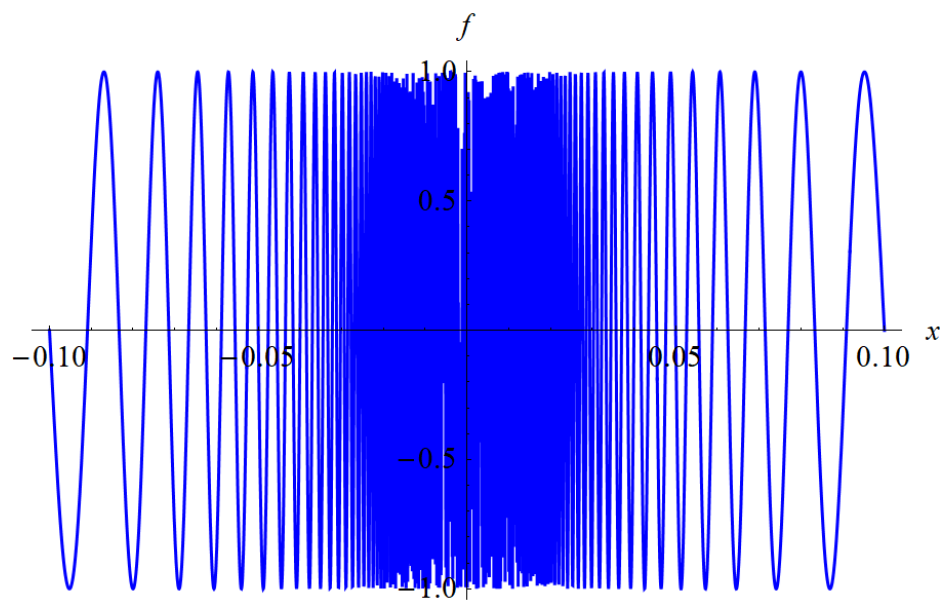
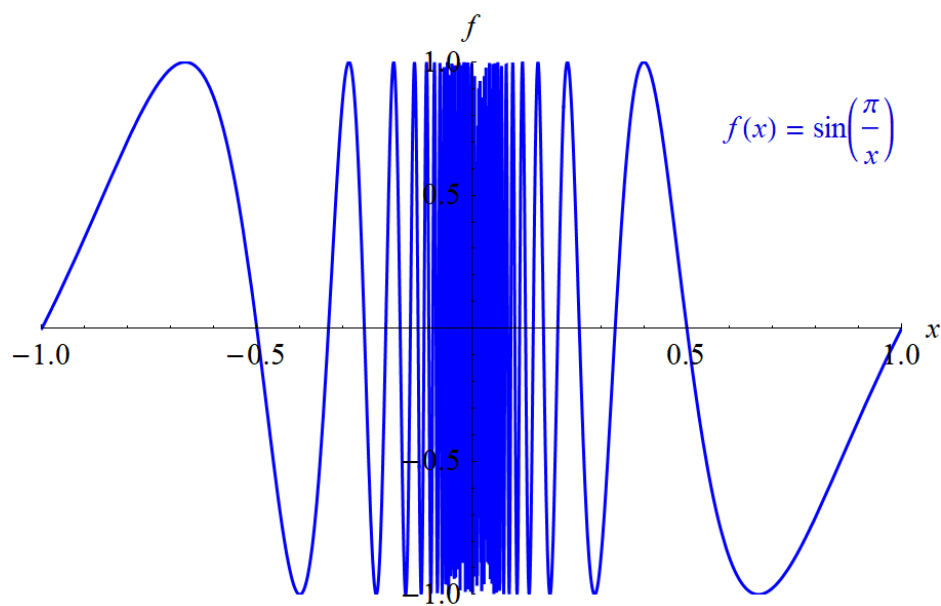


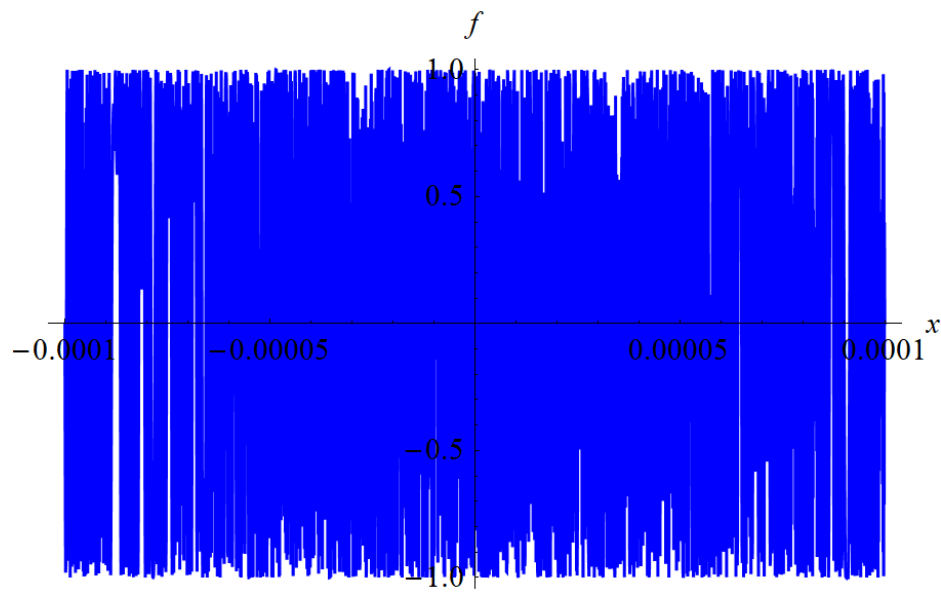
Exercise 51

Graph the function $f(x) = \sin(\pi/x)$ of Example 4 in the viewing rectangle $[-1, 1]$ by $[-1, 1]$. Then zoom in toward the origin several times. Comment on the behavior of this function.

Solution

Below are plots of $f(x)$ versus x for decreasing intervals of x about $x = 0$.





The function oscillates with higher and higher frequency the closer x gets to 0.