Exercise:

Suppose you have a function as follows:

f(x) = cos(3x) for 0 ≤ x ≤ 3

When we plot this function, we can observe that this function has three roots in the given interval. The roots lie between the intervals [0.45, 0.55], [1.5, 1.6], and [2.6, 2.7]. So we plot the zoomed views of the function in these intervals as well.

Perform the same operations and obtain similar figures in the same script for the following functions:

f(x) = 2 sin(x) − e^x + 1 for − 6 ≤ x ≤ 3

f(x) = (4x sin x − 3)/(2 + x^2) for 0 ≤ x ≤ 4